

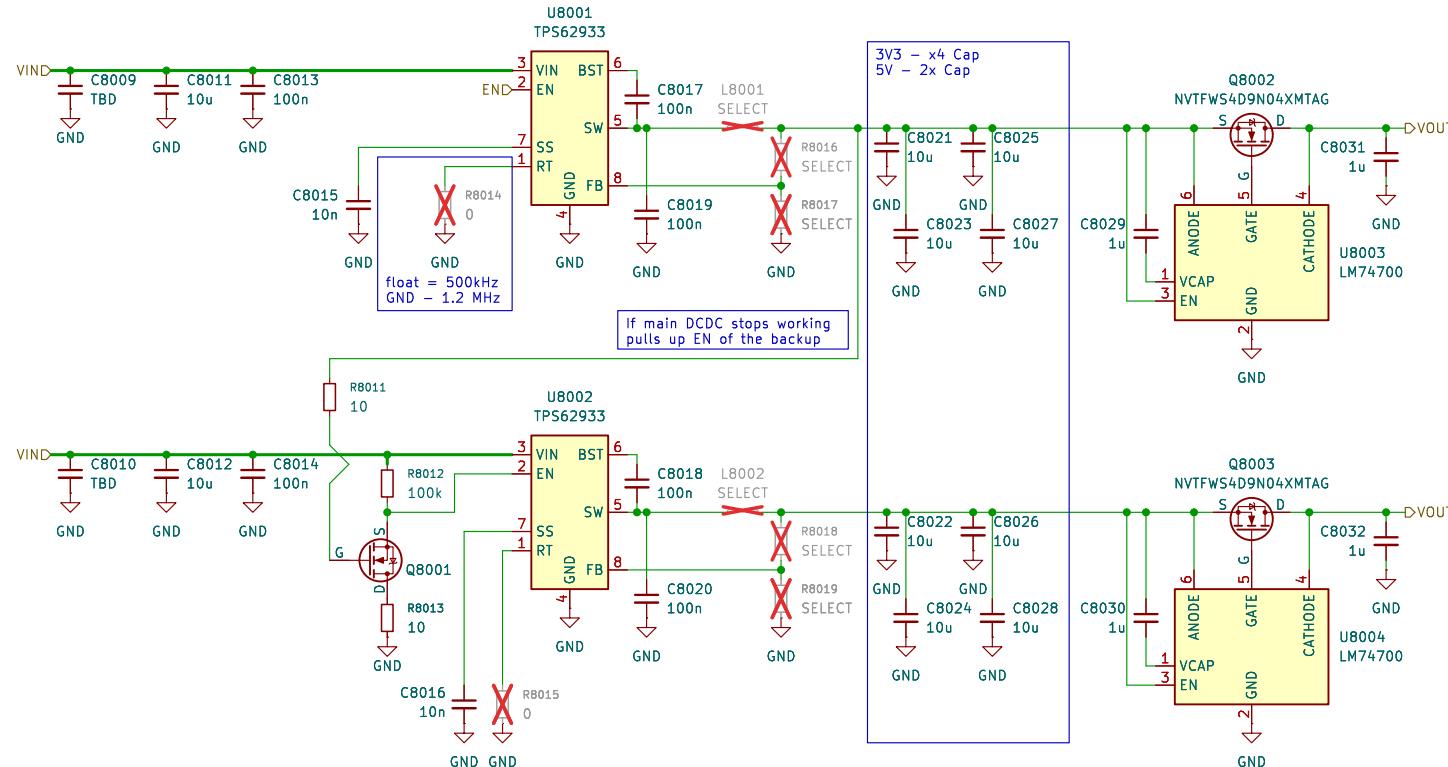
Inputs	Outputs
BUS Voltage	5V

2A

$$I_{CIN_RMS} = I_{OUT} \times \sqrt{\frac{V_{OUT}}{V_{IN_MIN}}} \times \frac{V_{IN_MIN} - V_{OUT}}{V_{IN_MIN}}$$

Use Rxx03 and Rxx00 to select output voltage

Output voltage
5V
10000*(5V-0.8)/0.8 => Rxx03,Rxx00 =
52500



Sheet: /OUTPUT_CHANNELS_2/5V_DCDC_1/
File: DCDC_ADJUSTABLE.kicad_sch

Title:

Size: A4 Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 38/80

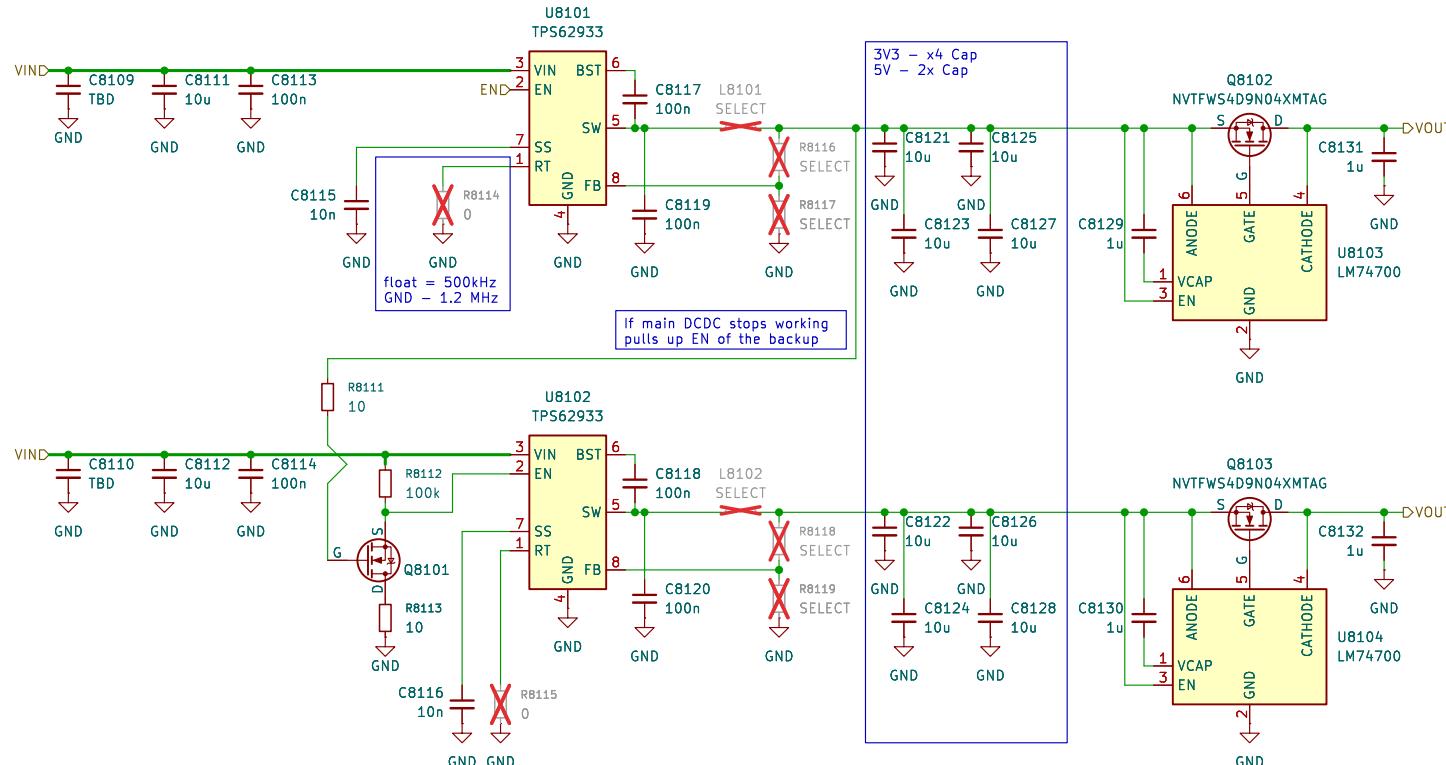
Inputs	Outputs
BUS Voltage	5V

2A

$$I_{CIN_RMS} = I_{OUT} \times \sqrt{\frac{V_{OUT}}{V_{IN_MIN}}} \times \frac{V_{IN_MIN} - V_{OUT}}{V_{IN_MIN}}$$

Use Rx03 and Rx00 to select output voltage

Output voltage
5V
 $10000 * (5V - 0.8) / 0.8 \Rightarrow R_{xx03}, R_{xx00} = 52500$



Sheet: /OUTPUT_CHANNELS_2/5V_DCDC_2/
File: DCDC_ADJUSTABLE.kicad_sch

Title:

Size: A4 Date
KiCad E.D.A. 9.0.4

Rev:
Id: 40/80

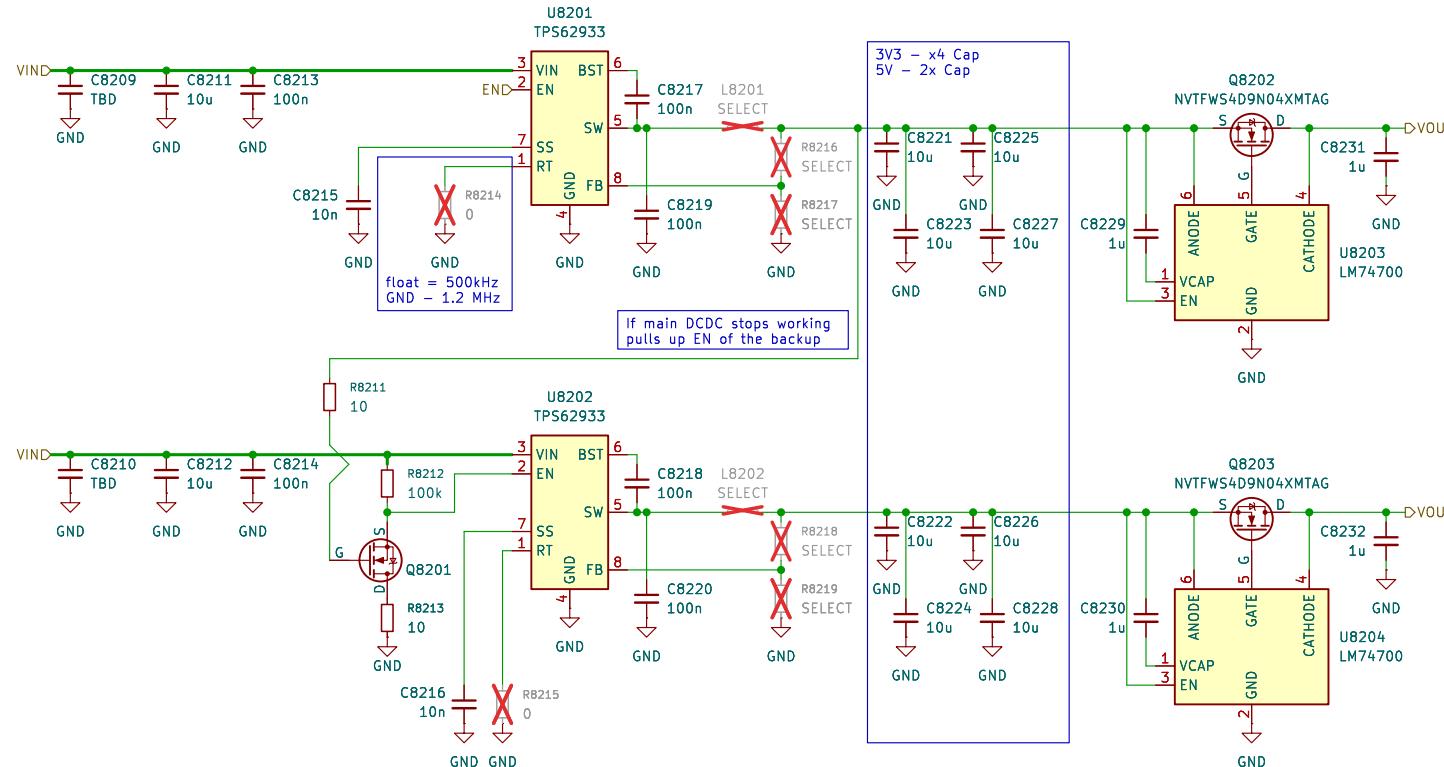
Inputs	Outputs
BUS Voltage	5V

2A

$$I_{CIN_RMS} = I_{OUT} \times \sqrt{\frac{V_{OUT}}{V_{IN_MIN}}} \times \frac{V_{IN_MIN} - V_{OUT}}{V_{IN_MIN}}$$

Use Rxx03 and Rxx00 to select output voltage

Output voltage
5V
10000*(5V-0.8)/0.8 => Rxx03,Rxx00 =
52500



Sheet: /OUTPUT_CHANNELS_2/5V_DCDC_3/
File: DCDC_ADJUSTABLE.kicad_sch

Title:

Size: A4 Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 42/80

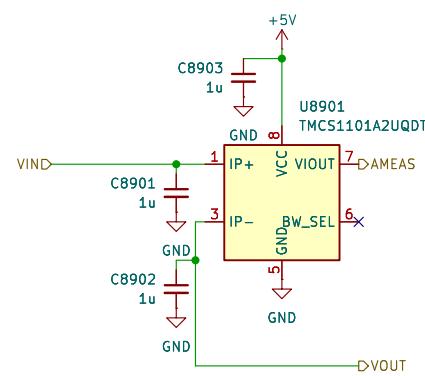
1 2 3 4 5 6

A

B

C

D



Sheet: /OUTPUT_CHANNELS_2/AMEAS_1/
File: Current_Measure.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 43/80

1 2 3 4 5 6

A

B

C

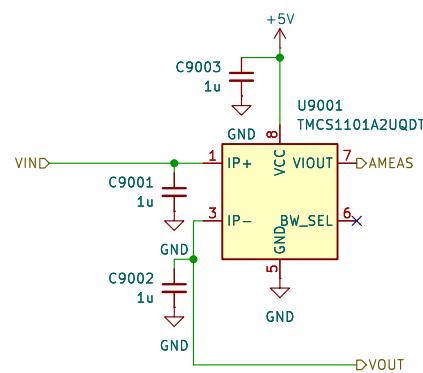
D

A

B

C

D



Sheet: /OUTPUT_CHANNELS_2/AMEAS_2/
File: Current_Measure.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 44/80

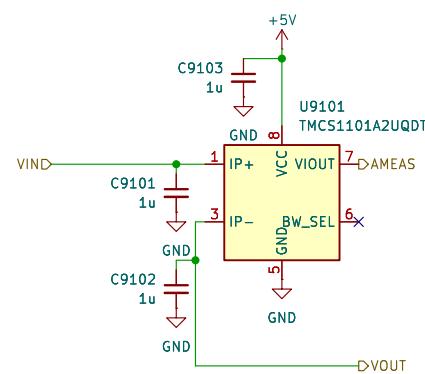
1 2 3 4 5 6

A

B

C

D



Sheet: /OUTPUT_CHANNELS_2/AMEAS_3/
File: Current_Measure.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

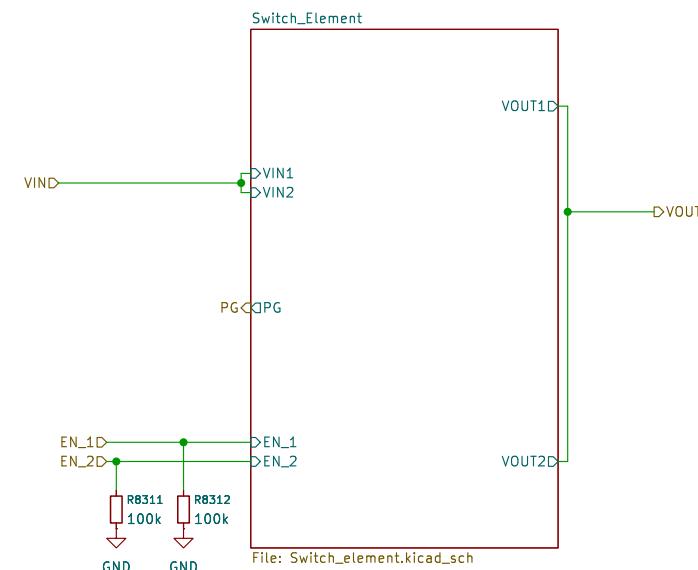
Rev:
Id: 48/80

1 2 3 4 5 6

A

Inputs	Outputs
Input voltage	Output voltage
Input from CPU	

Generic Switch
soft current limit – software
hard current limit – Resistor
kalibrace ADC mereni proudu
hot/cold redundancy
hot – 1 enable automatic
cold – 2 enables manual



B

C

D

Sheet: /OUTPUT_CHANNELS_2/Switch_CH_1/
File: Switch_C.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 49/80

A

104

B

1

C

104

D

10

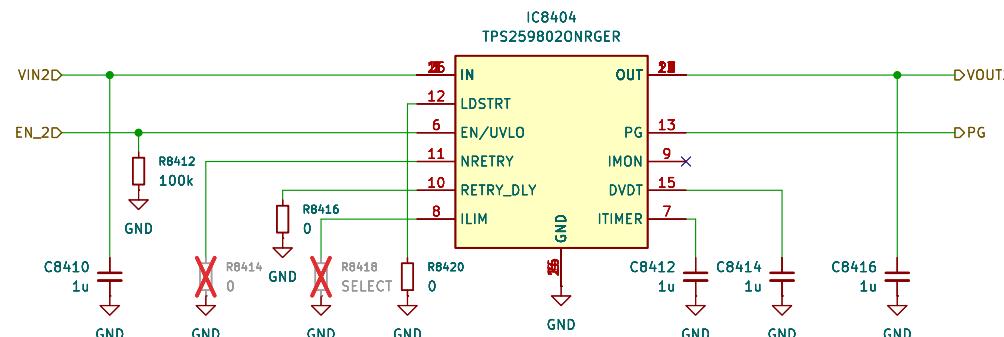
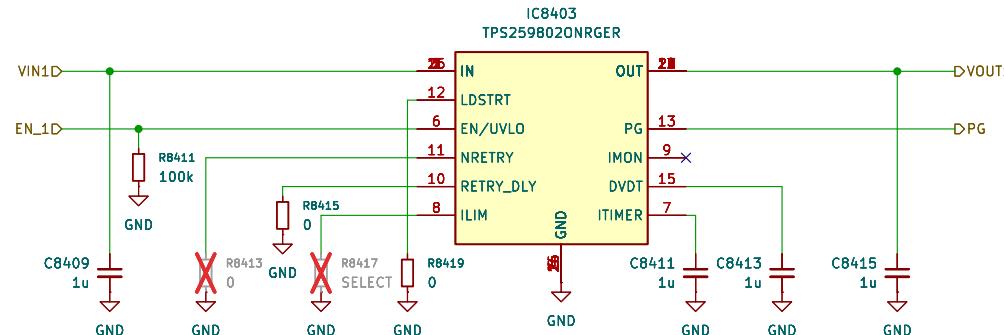
Candidates

6A
TPS281C30ERGWR
TPS25910RSAR
TPS1H200A-Q1 – too much Ron

TPS259802

10A
TPS1685
TPS25983
LTC4226

TPS25983



Sheet: /OUTPUT_CHANNELS_2/Switch_CH_1/Switch_Element/
File: Switch_element.kicad_sch

Title:

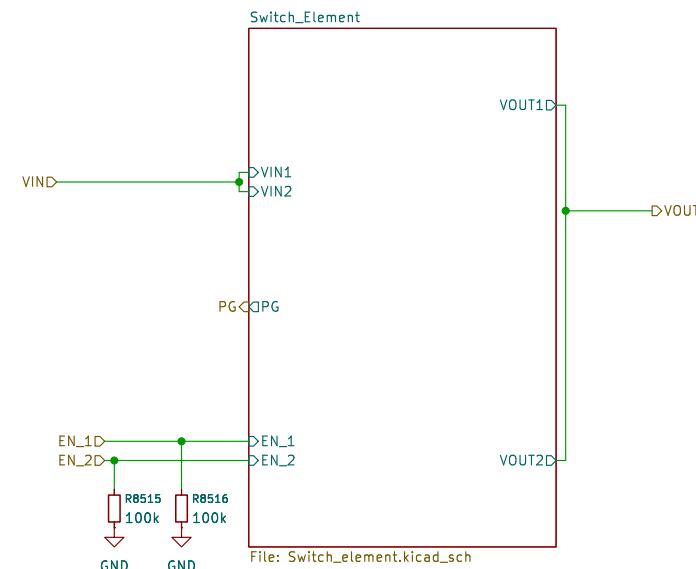
Size: A4 Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 52/80

A

Inputs	Outputs
Input voltage	Output voltage
Input from CPU	

Generic Switch
soft current limit – software
hard current limit – Resistor
kalibrace ADC mereni proudu
hot/cold redundancy
hot – 1 enable automatic
cold – 2 enables manual



B

C

D

Sheet: /OUTPUT_CHANNELS_2/Switch_CH_2/
File: Switch_C.kicad_sch

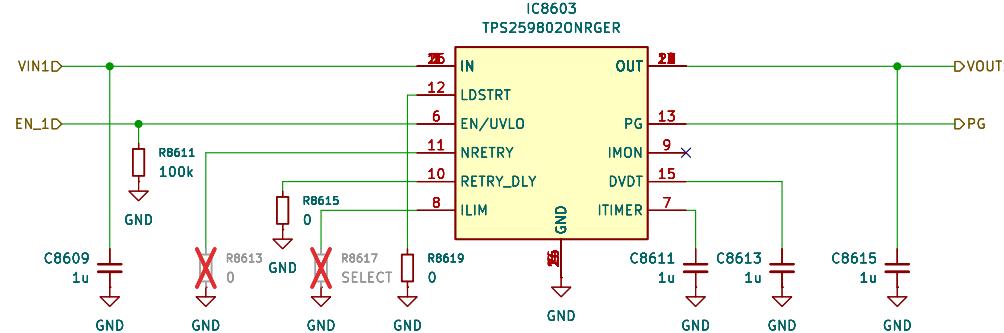
Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

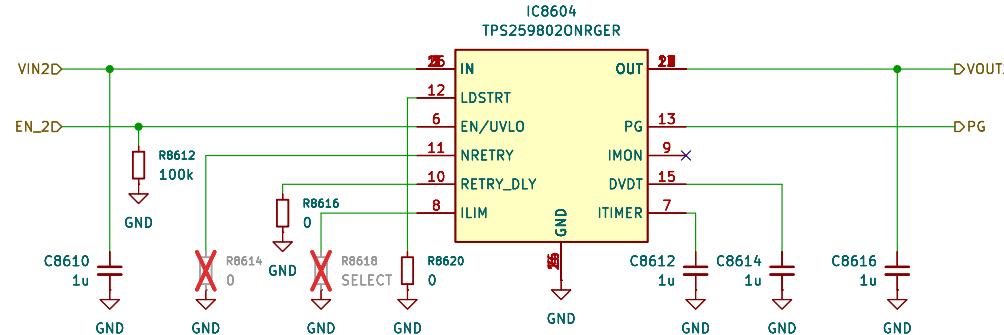
Rev:
Id: 53/80

A

Candidates
6A TPS281C30ERGWR
TPS25910RSAR
TPS1H200A-Q1 – too much Ron
TPS259802
10A TPS1685
TPS25983
LTC4226
TPS25983



B



C

D

Sheet: /OUTPUT_CHANNELS_2/Switch_CH_2/Switch_Element/
 File: Switch_element.kicad_sch

Title:

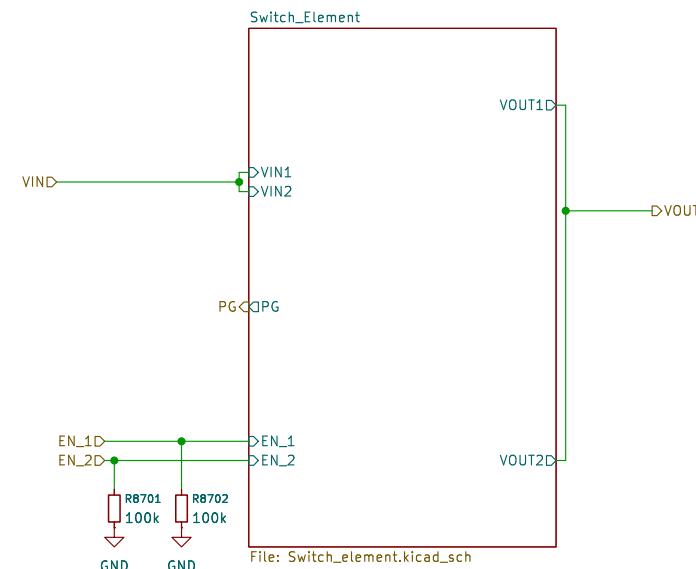
Size: A4 | Date:
 KiCad E.D.A. 9.0.4

Rev:
 Id: 54/80

A

Inputs	Outputs
Input voltage	Output voltage
Input from CPU	

Generic Switch
soft current limit – software
hard current limit – Resistor
kalibrace ADC mereni proudu
hot/cold redundancy
hot – 1 enable automatic
cold – 2 enables manual



B

C

D

Sheet: /OUTPUT_CHANNELS_2/Switch_CH_3/
File: Switch_C.kicad_sch

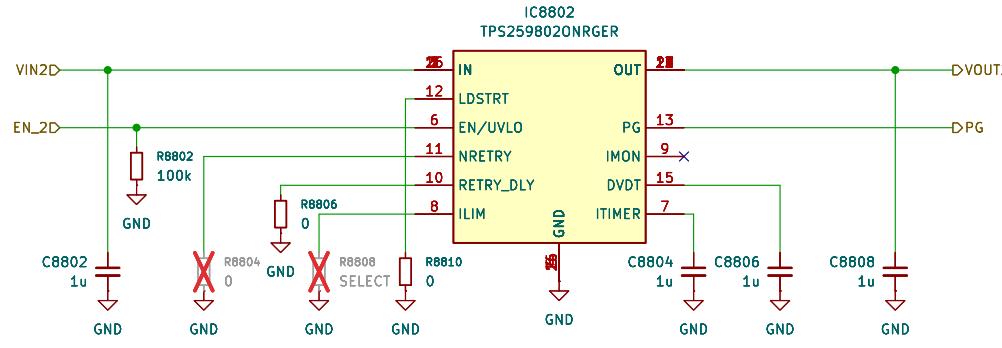
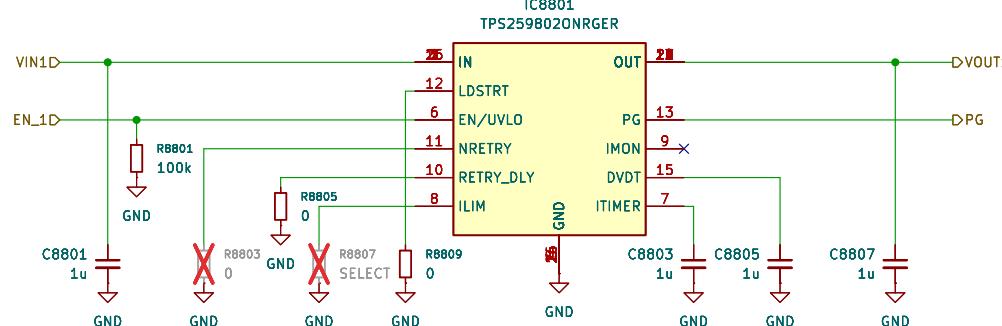
Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 58/80

A

Candidates
6A TPS281C30ERGWR
TPS25910RSAR
TPS1H200A-Q1 – too much Ron
TPS259802
10A TPS1685
TPS25983
LTC4226
TPS25983



Sheet: /OUTPUT_CHANNELS_2/Switch_CH_3/Switch_Element/
File: Switch_element.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 60/80

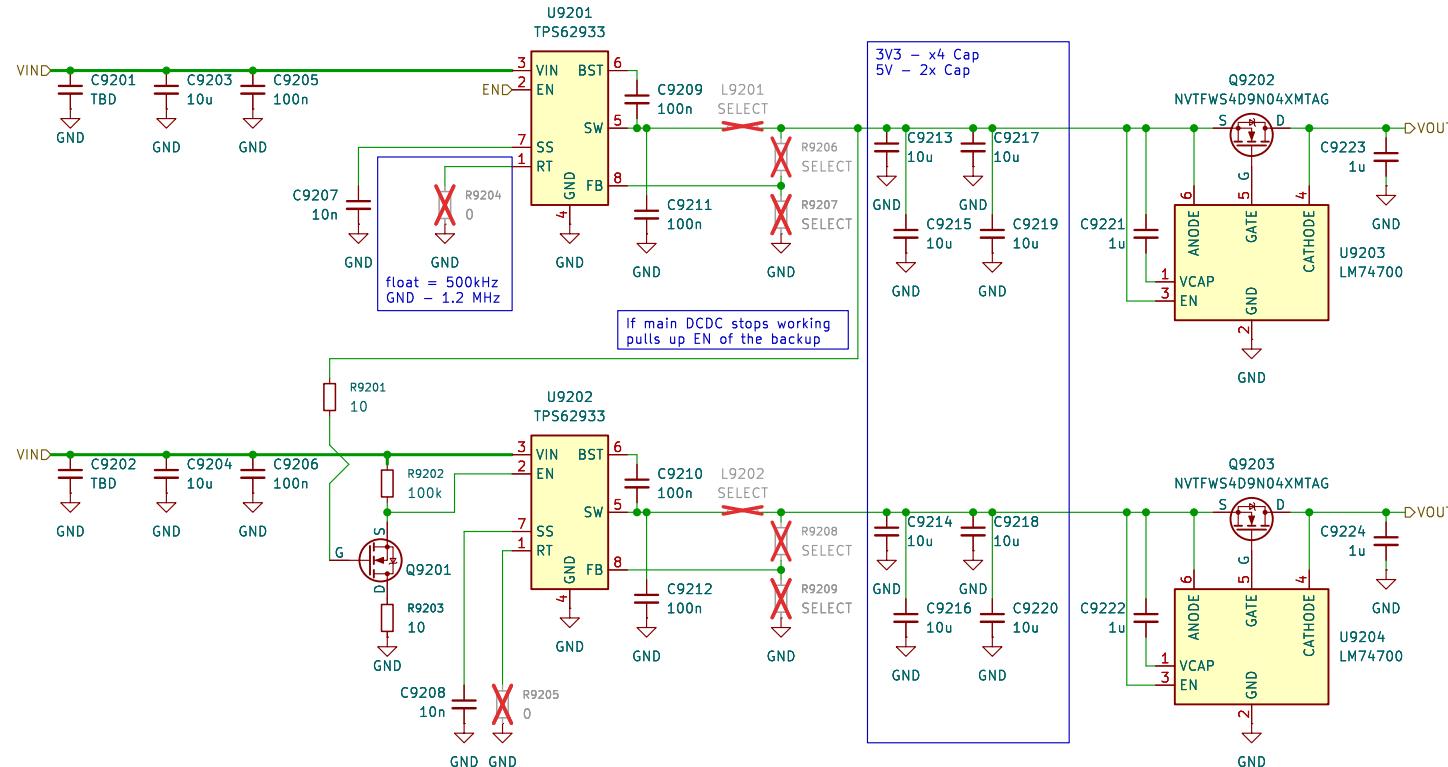
Inputs	Outputs
BUS Voltage	5V

2A

$$I_{CIN_RMS} = I_{OUT} \times \sqrt{\frac{V_{OUT}}{V_{IN_MIN}}} \times \frac{V_{IN_MIN} - V_{OUT}}{V_{IN_MIN}}$$

Use Rxx03 and Rxx00 to select output voltage

Output voltage
5V
10000*(5V-0.8)/0.8 => Rxx03,Rxx00 =
52500

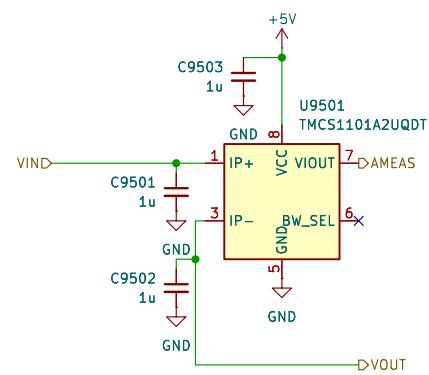


Sheet: /OUTPUT_CHANNELS_2/5V_DCDC_7/
File: DCDC_ADJUSTABLE.kicad_sch

Title:

Size: A4 Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 61/80



Sheet: /OUTPUT_CHANNELS_2/AMEAS_7/
File: Current_Measure.kicad_sch

Title:

Size: A4 Date:
KiCad E.D.A. 9.0.4

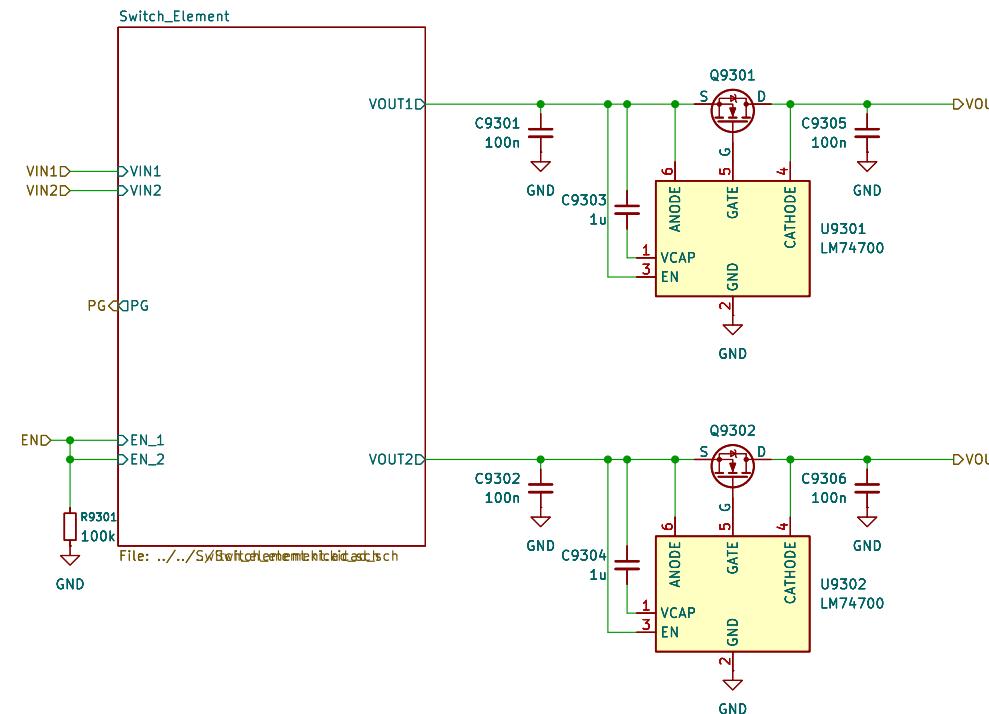
Rev:
Id: 65/80

Inputs	Outputs
Input voltage	Output voltage
Input from CPU	

dedikovaný ideal diode IC

A

Generic Switch
soft current limit – software
hard current limit – Resistor
kalibrace ADC merení proudu
hot/cold redundancy
hot – 1 enable automatic
cold – 2 enables manual



Sheet: /OUTPUT_CHANNELS_2/Switch_CH_7/
File: Switch_H.kicad_sch

Title:

Size: A4 Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 67/80

B

A

C

B

D

C

1

2

3

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5

6

1

2

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4

5

6

A

B

C

D

A

B

C

D

Sheet: /OUTPUT_CHANNELS_2/Switch_CH_7/Switch_Element/
File: Switch_element.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 69/80

1

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4

5

6

1

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6

A

B

C

D

A

B

C

D

Sheet: /OUTPUT_CHANNELS_2/Switch_CH_7/Switch_Element/
File: Switch_element.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 69/80

1

2

3

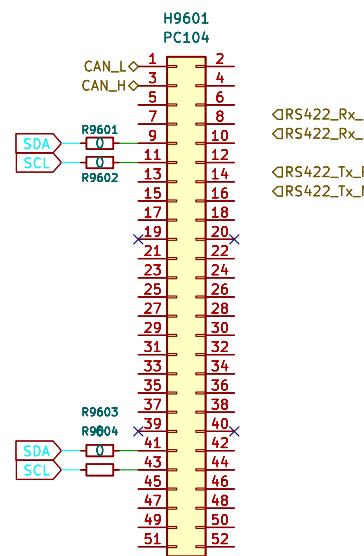
4

5

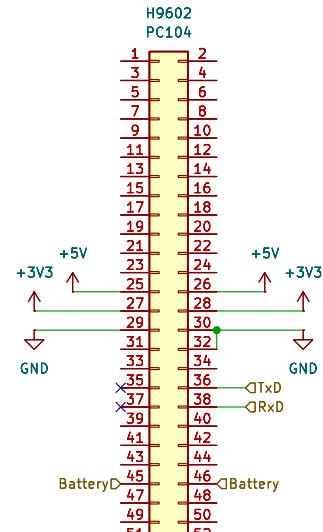
6

1 2 3 4 5 6

A



B



C

D

Sheet: /OUTPUT_CHANNELS_2/PC104/
File: PC104.kicad_sch

Title:

Size: A4 Date:
KiCad E.D.A. 9.0.4

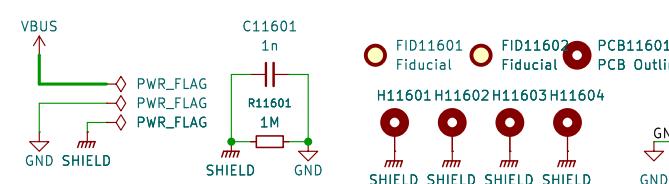
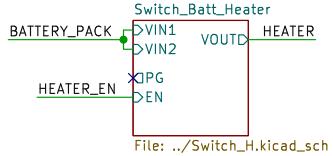
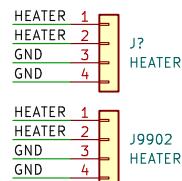
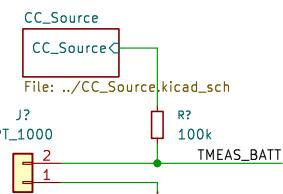
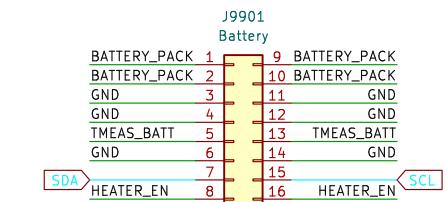
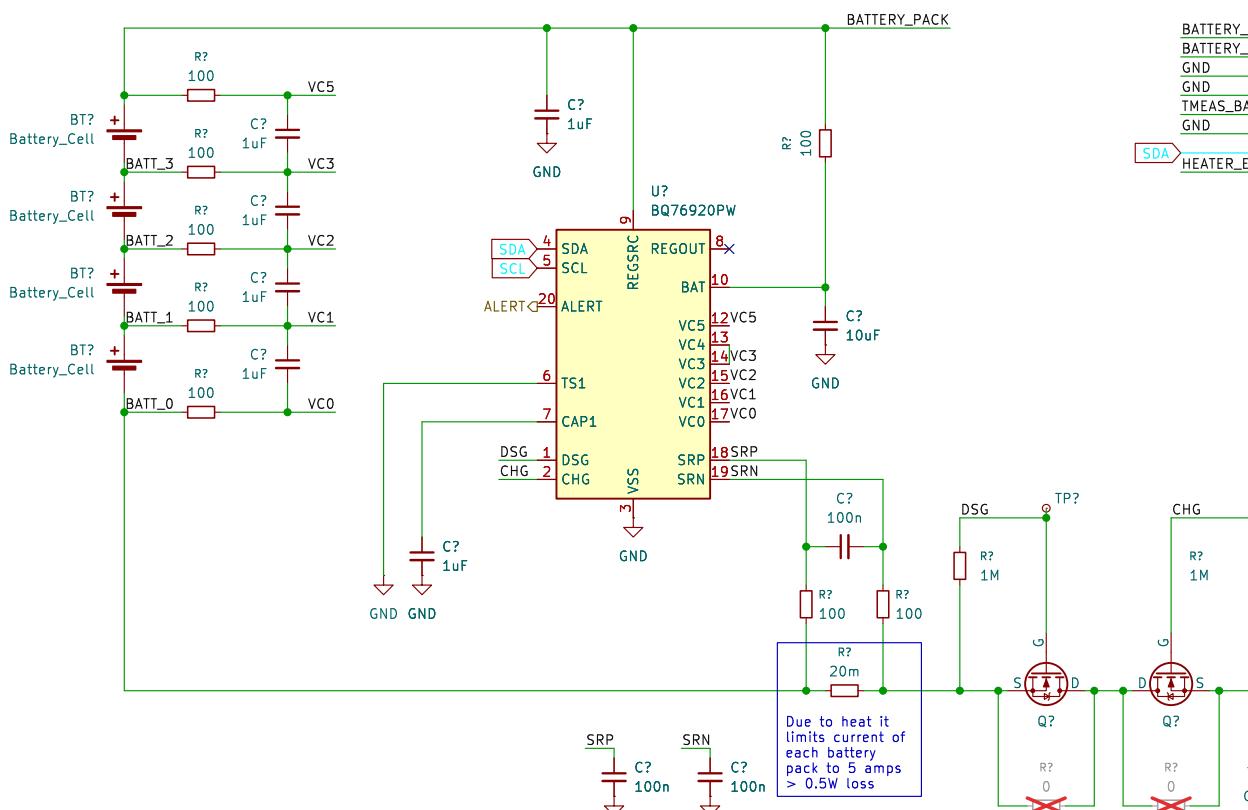
Rev:
Id: 70/80

1 2 3 4 5 6

1 2 3 4 5 6

Inputs	Outputs
Input voltage	Output voltage
Heater Enable	Measured voltage
4S battery	Measured current
	Temperature of the Cell
	Temperature of the charger (not sure)

Input for Battery cell with balancing circuit
Temperature measurement of the battery
Heater for maintaining battery temperature



Sheet: /BATTERY_1/
File: EPS_BATTERY_PACK.kicad_sch

Title:

Size: A4 Date:

KiCad E.D.A. 9.0.4

Rev:
Id: 106/80

1 2 3 4 5 6

A

A

B

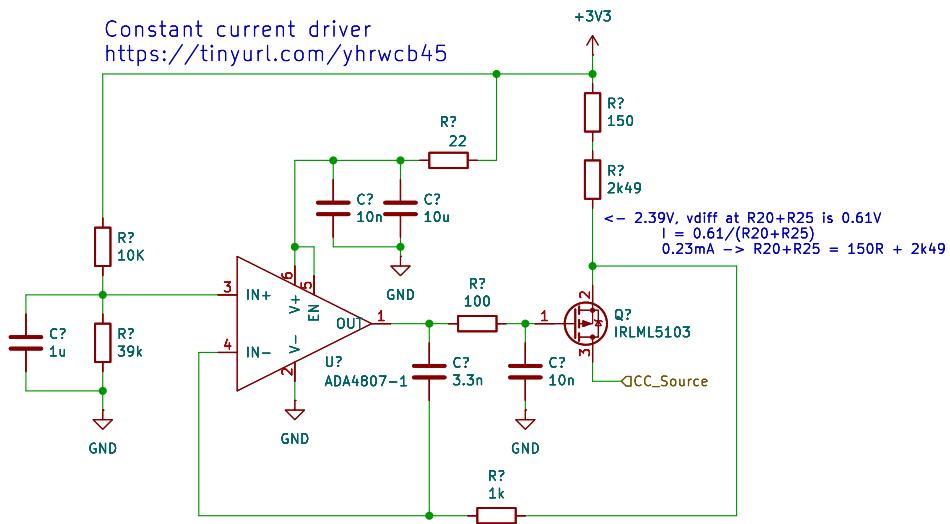
B

C

C

D

D



Sheet: /BATTERY_1/CC_Source/
 File: CC_Source.kicad_sch

Title:

Size: A4 Date:
 KiCad E.D.A. 9.0.4

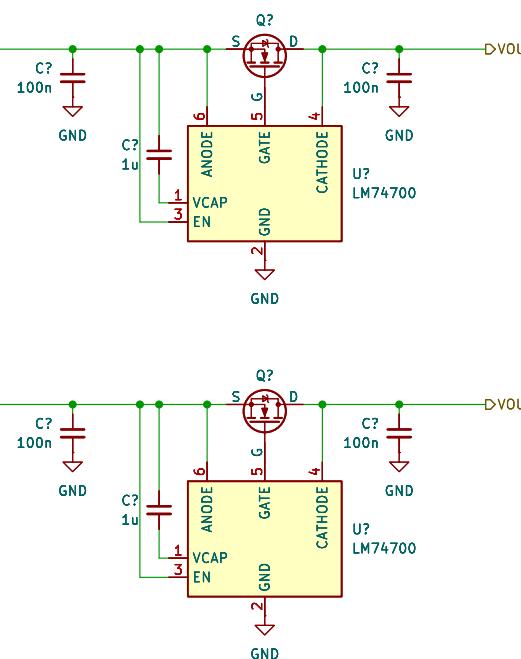
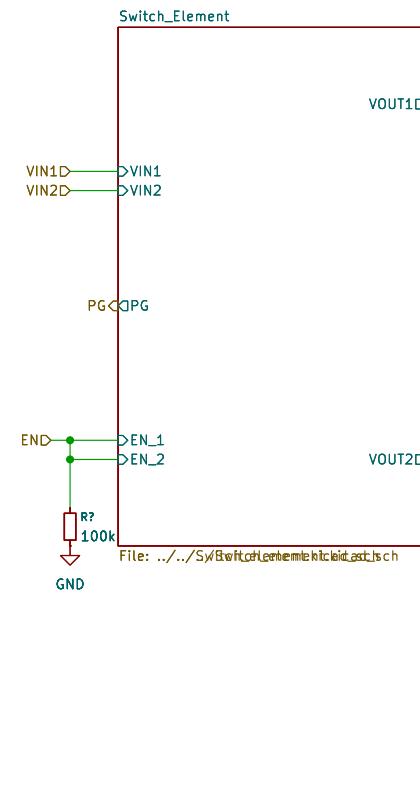
Rev:
 Id: 77/80

Inputs	Outputs
Input voltage	Output voltage
Input from CPU	

dedikovaný ideal diode IC

A

Generic Switch
soft current limit – software
hard current limit – Resistor
kalibrace ADC merení proudu
hot/cold redundancy
hot – 1 enable automatic
cold – 2 enables manual



Sheet: /BATTERY_1/Switch_Batt_Heater/
File: Switch_H.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 78/80

1

2

3

4

5

6

A

B

C

D

A

B

C

D

Sheet: /BATTERY_1/Switch_Batt_Heater/Switch_Element/
File: Switch_element.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 79/80

1

2

3

4

5

6

1 2 3 4 5 6

A

B

C

D

A

B

C

D

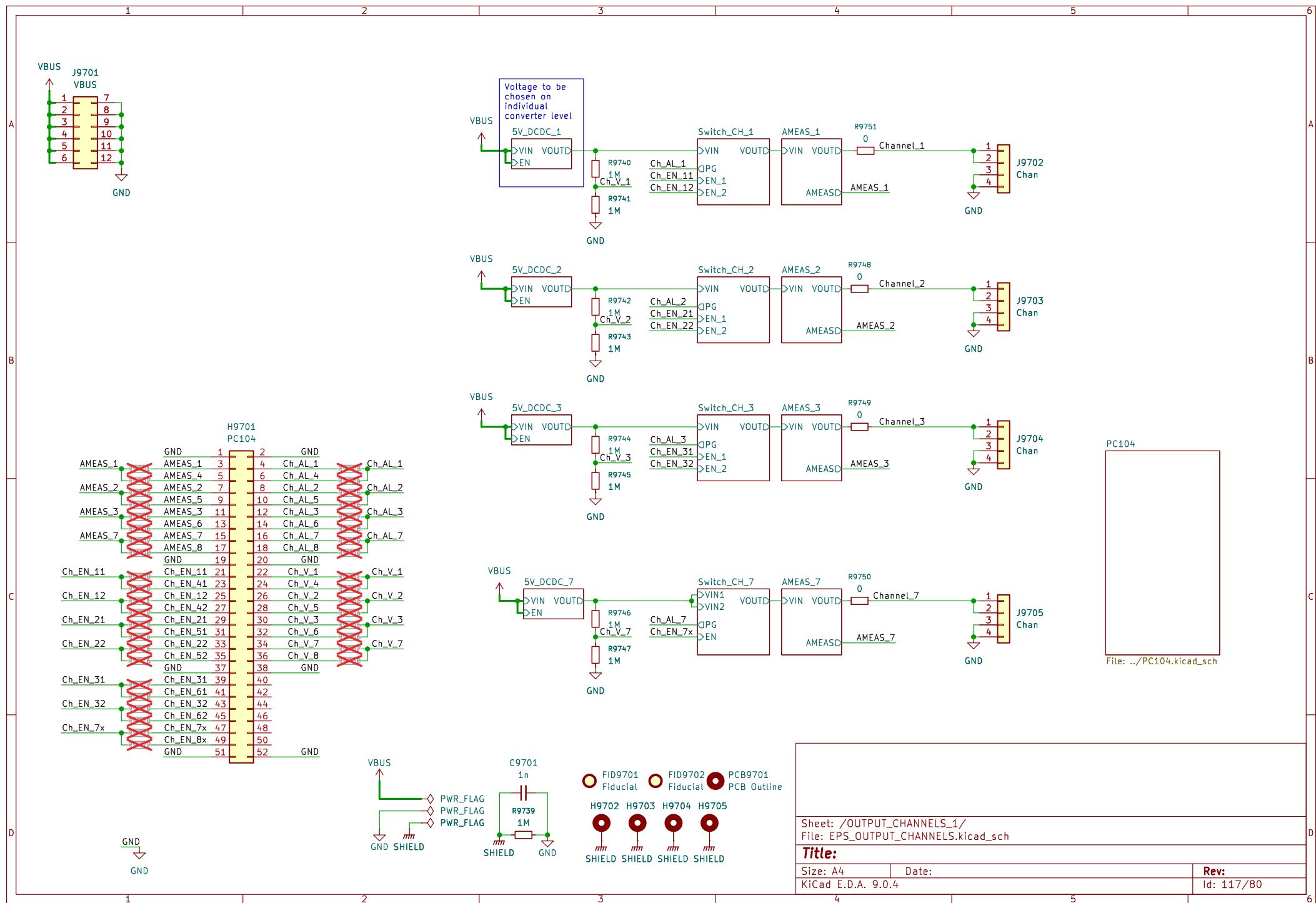
Sheet: /BATTERY_1/Switch_Batt_Heater/Switch_Element/
File: Switch_element.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 80/80

1 2 3 4 5 6



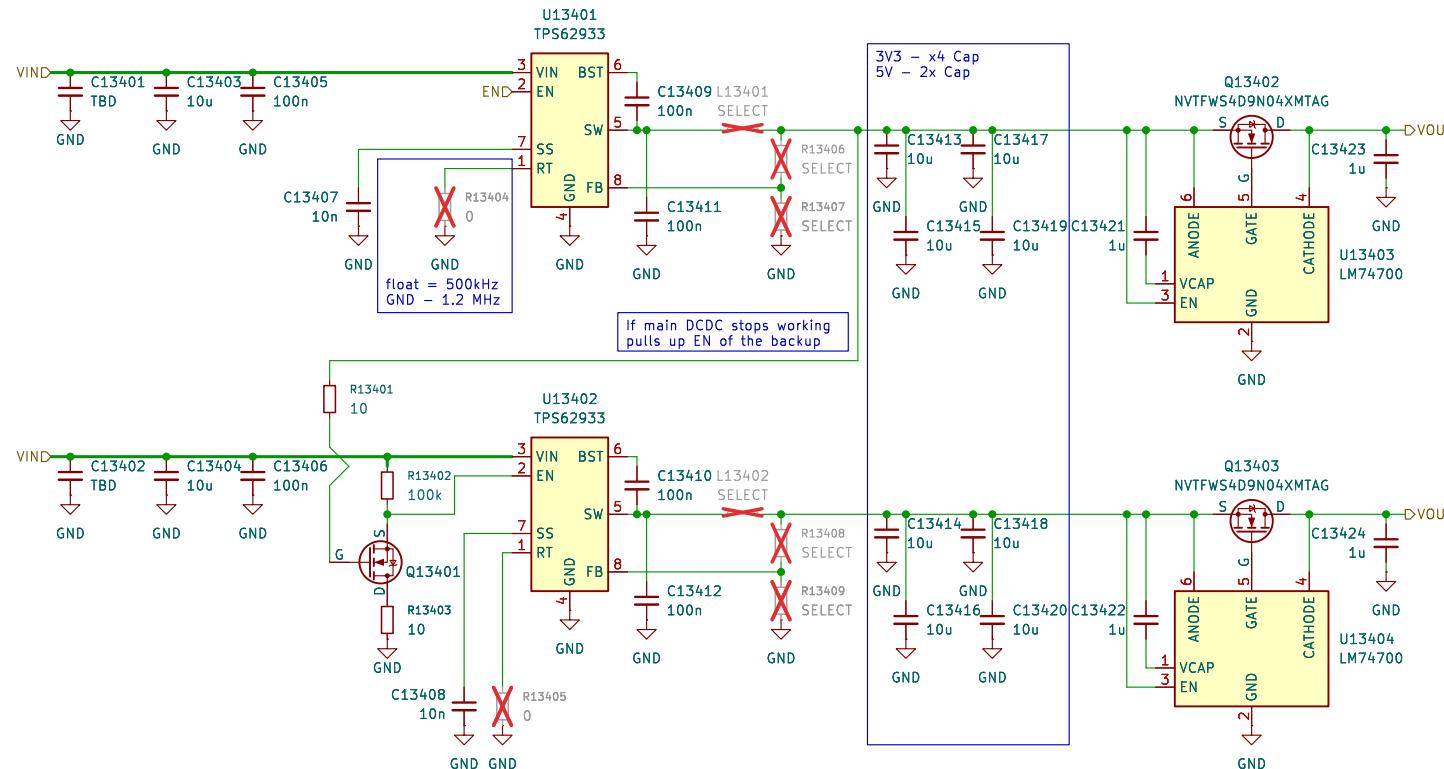
Inputs	Outputs
BUS Voltage	5V

2A

$$I_{CIN_RMS} = I_{OUT} \times \sqrt{\frac{V_{OUT}}{V_{IN_MIN}}} \times \frac{V_{IN_MIN} - V_{OUT}}{V_{IN_MIN}}$$

Use Rxx03 and Rxx00 to select output voltage

Output voltage
5V
10000*(5V-0.8)/0.8 => Rxx03,Rxx00 =
52500



Sheet: /OUTPUT_CHANNELS_1/5V_DCDC_3/
File: DCDC_ADJUSTABLE.kicad_sch

Title:

Size: A4 Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 118/80

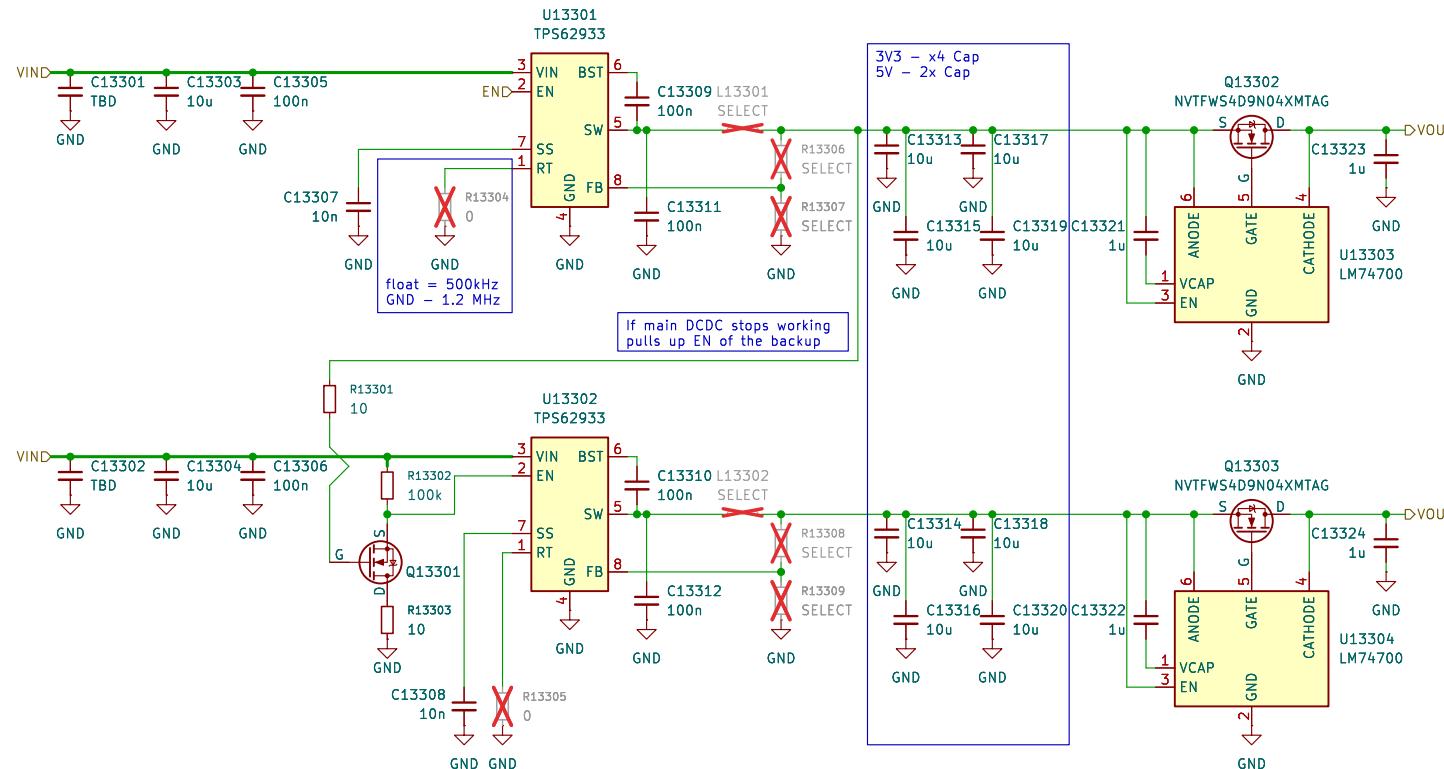
Inputs	Outputs
BUS Voltage	5V

2A

$$I_{CIN_RMS} = I_{OUT} \times \sqrt{\frac{V_{OUT}}{V_{IN_MIN}}} \times \frac{V_{IN_MIN} - V_{OUT}}{V_{IN_MIN}}$$

Use Rxx03 and Rxx00 to select output voltage

Output voltage
5V
10000*(5V-0.8)/0.8 => Rxx03,Rxx00 =
52500



Sheet: /OUTPUT_CHANNELS_1/5V_DCDC_2/
File: DCDC_ADJUSTABLE.kicad_sch

Title:

Size: A4 Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 121/80

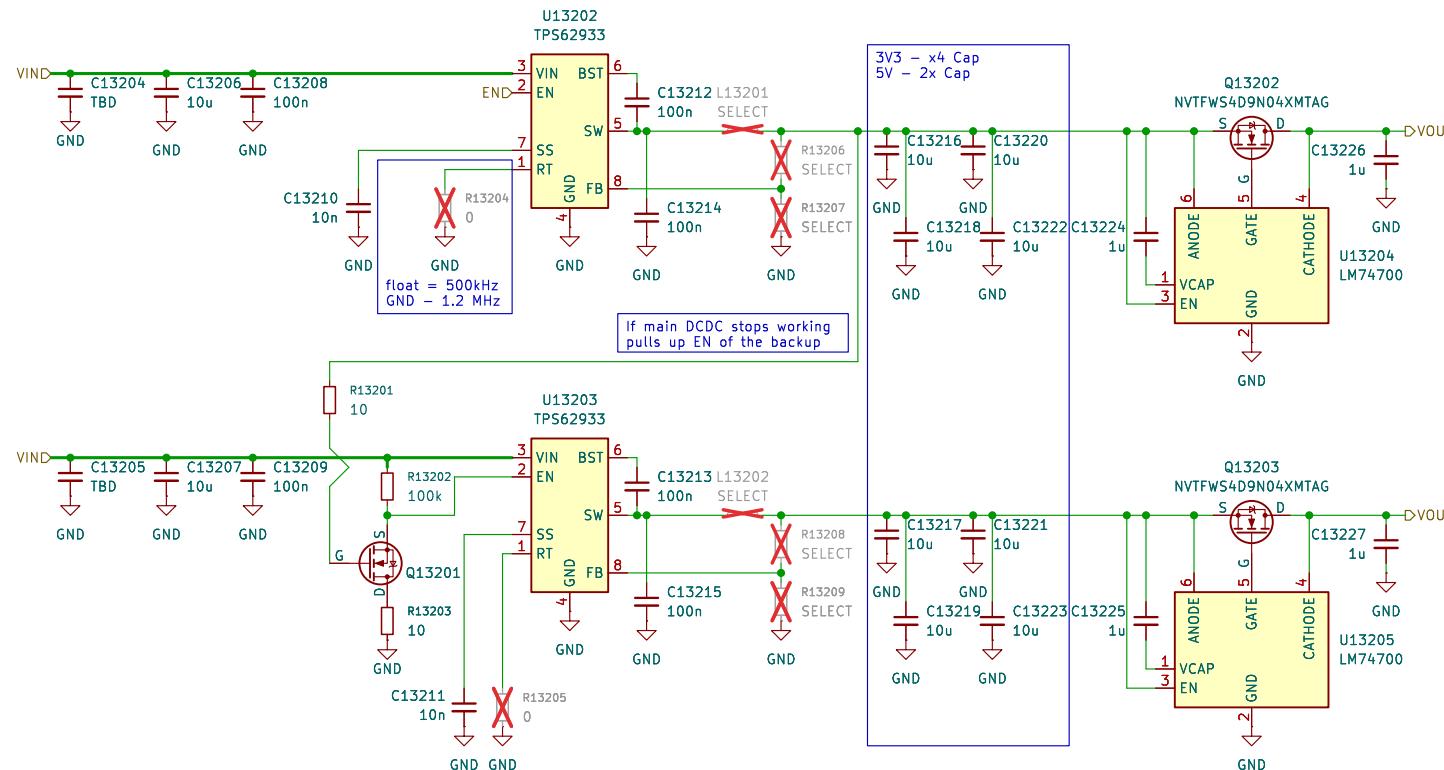
Inputs	Outputs
BUS Voltage	5V

2A

$$I_{CIN_RMS} = I_{OUT} \times \sqrt{\frac{V_{OUT}}{V_{IN_MIN}}} \times \frac{V_{IN_MIN} - V_{OUT}}{V_{IN_MIN}}$$

Use Rxx03 and Rxx00 to select output voltage

Output voltage
5V
10000*(5V-0.8)/0.8 => Rxx03,Rxx00 =
52500



Sheet: /OUTPUT_CHANNELS_1/5V_DCDC_1/
File: DCDC_ADJUSTABLE.kicad_sch

Title:

Size: A4 Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 122/80

A

B

C

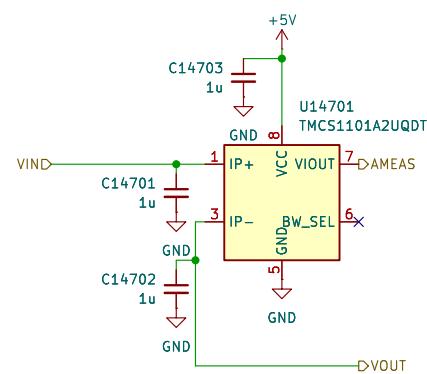
D

A

B

C

D



Sheet: /OUTPUT_CHANNELS_1/AMEAS_3/
File: Current_Measure.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

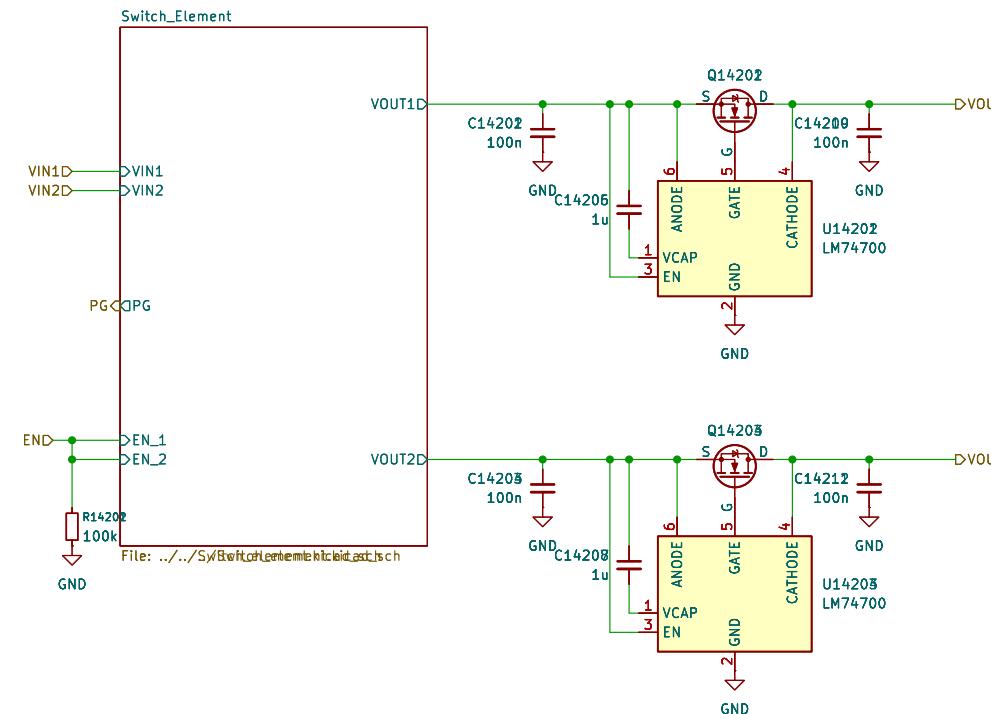
Rev:
Id: 123/80

Inputs	Outputs
Input voltage	Output voltage
Input from CPU	

dedikovaný ideal diode IC

A

Generic Switch
soft current limit – software
hard current limit – Resistor
kalibrace ADC merení proudu
hot/cold redundancy
hot – 1 enable automatic
cold – 2 enables manual



Sheet: /OUTPUT_CHANNELS_1/Switch_CH_7/
File: Switch_H.kicad_sch

Title:

Size: A4 Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 124/80

B

A

B

B

C

C

D

D

1 2 3 4 5 6

A

B

C

D

A

B

C

D

Sheet: /OUTPUT_CHANNELS_1/Switch_CH_7/Switch_Element/
File: Switch_element.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 125/80

1 2 3 4 5 6

1

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A

B

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A

B

C

D

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Sheet: /OUTPUT_CHANNELS_1/Switch_CH_7/Switch_Element/
File: Switch_element.kicad_sch

Title:

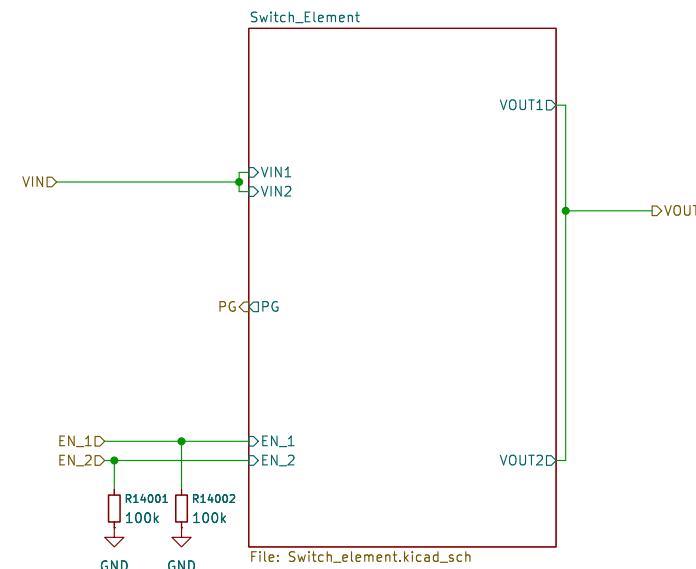
Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 126/80

A

Inputs	Outputs
Input voltage	Output voltage
Input from CPU	

Generic Switch
soft current limit – software
hard current limit – Resistor
kalibrace ADC mereni proudu
hot/cold redundancy
hot – 1 enable automatic
cold – 2 enables manual



B

C

D

Sheet: /OUTPUT_CHANNELS_1/Switch_CH_3/
File: Switch_C.kicad_sch

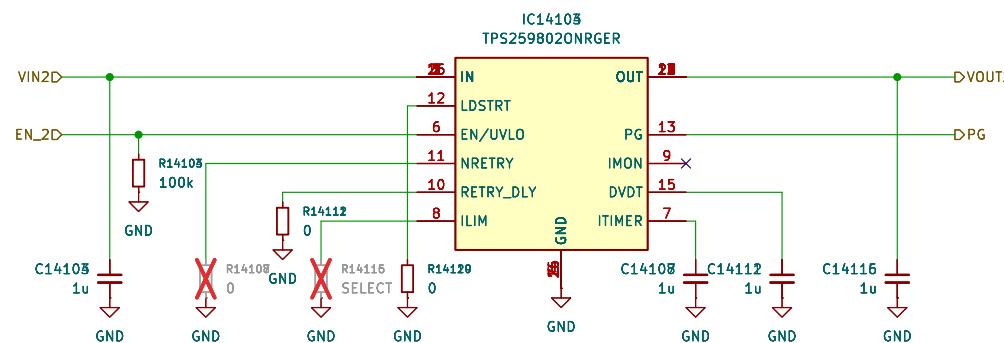
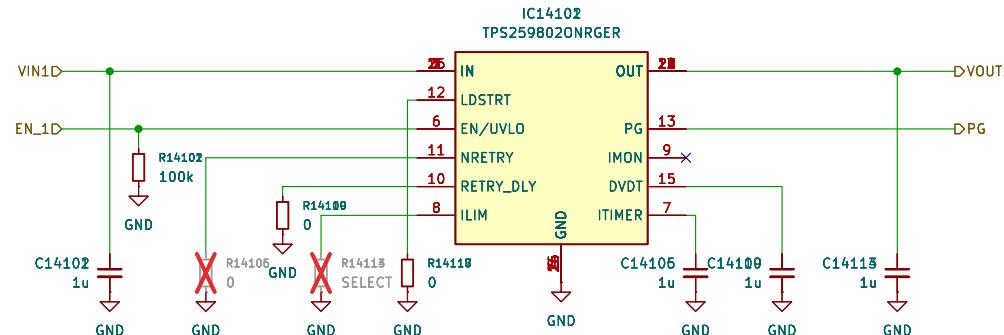
Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 128/80

A

Candidates
6A TPS281C30ERGWR
TPS25910RSAR
TPS1H200A-Q1 – too much Ron
TPS259802
10A TPS1685
TPS25983
LTC4226
TPS25983



Sheet: /OUTPUT_CHANNELS_1/Switch_CH_3/Switch_Element/
File: Switch_element.kicad_sch

Title:

Size: A4 Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 129/80

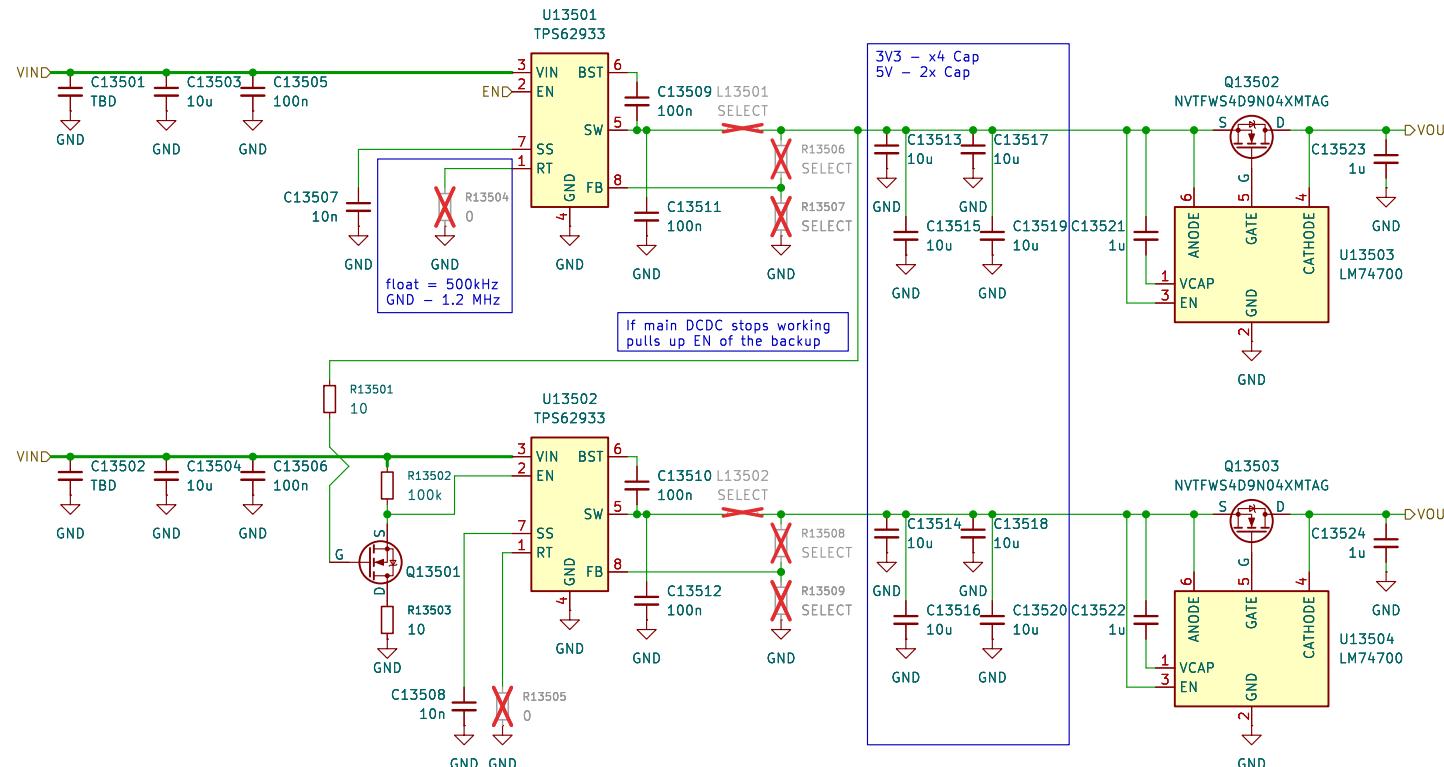
Inputs	Outputs
BUS Voltage	5V

2A

$$I_{CIN_RMS} = I_{OUT} \times \sqrt{\frac{V_{OUT}}{V_{IN_MIN}}} \times \frac{V_{IN_MIN} - V_{OUT}}{V_{IN_MIN}}$$

Use Rxx03 and Rxx00 to select output voltage

Output voltage
5V
10000*(5V-0.8)/0.8 => Rxx03,Rxx00 =
52500



Sheet: /OUTPUT_CHANNELS_1/5V_DCDC_7/
File: DCDC_ADJUSTABLE.kicad_sch

Title:

Size: A4 Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 130/80

A

B

C

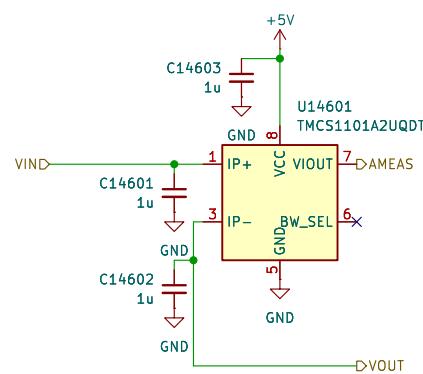
D

A

B

C

D



Sheet: /OUTPUT_CHANNELS_1/AMEAS_2/
File: Current_Measure.kicad_sch

Title:

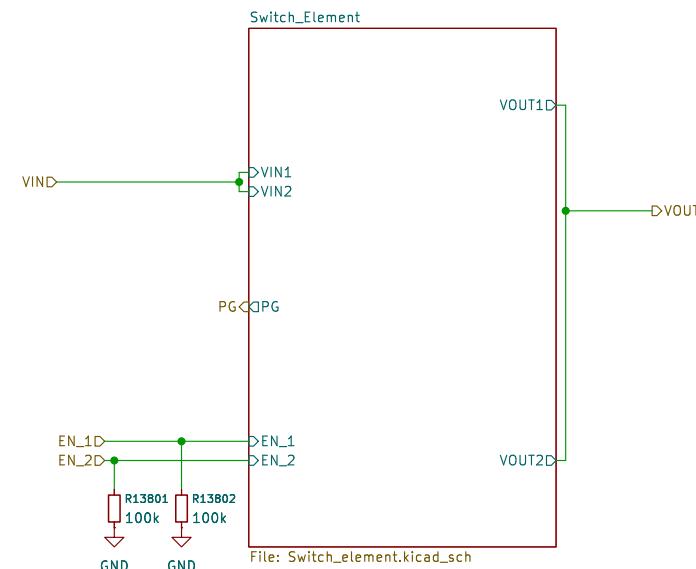
Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 131/80

A

Inputs	Outputs
Input voltage	Output voltage
Input from CPU	

Generic Switch
soft current limit – software
hard current limit – Resistor
kalibrace ADC mereni proudu
hot/cold redundancy
hot – 1 enable automatic
cold – 2 enables manual



B

C

D

Sheet: /OUTPUT_CHANNELS_1/Switch_CH_2/
File: Switch_C.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 132/80

A

A

B

B

C

C

D

D

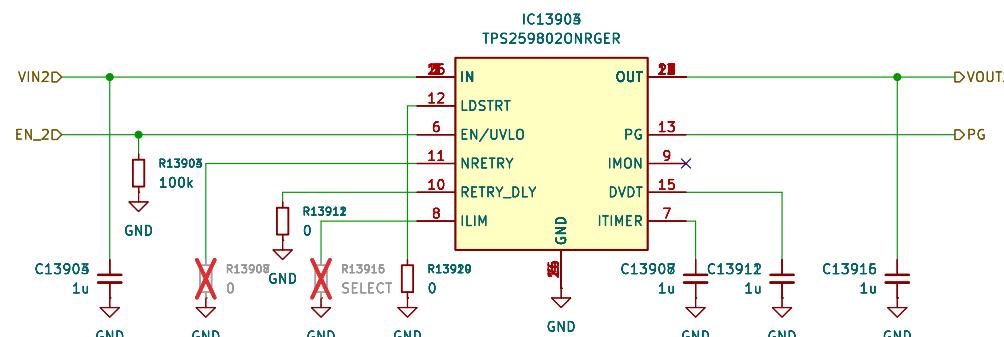
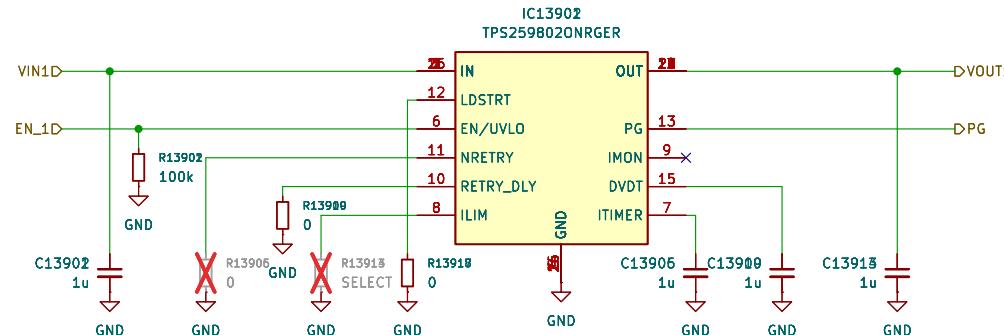
Candidates

6A
TPS281C30ERGWR
TPS25910RSAR
TPS1H200A-Q1 – too much Ron

TPS259802

10A
TPS1685
TPS25983

TPS25983



Sheet: /OUTPUT_CHANNELS_1/Switch_CH_2/Switch_Element/
File: Switch_element.kicad_sch

Title:

Size: A4 Date:
KiCad E.D.A. 9.0.4

Rev: 133/80

A

B

C

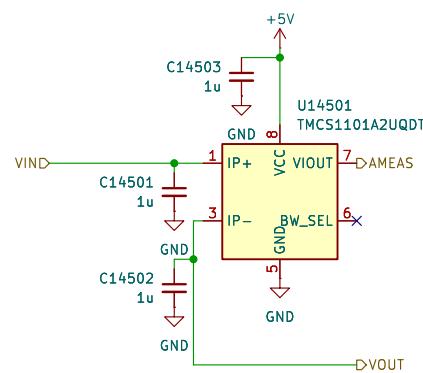
D

A

B

C

D



Sheet: /OUTPUT_CHANNELS_1/AMEAS_1/
File: Current_Measure.kicad_sch

Title:

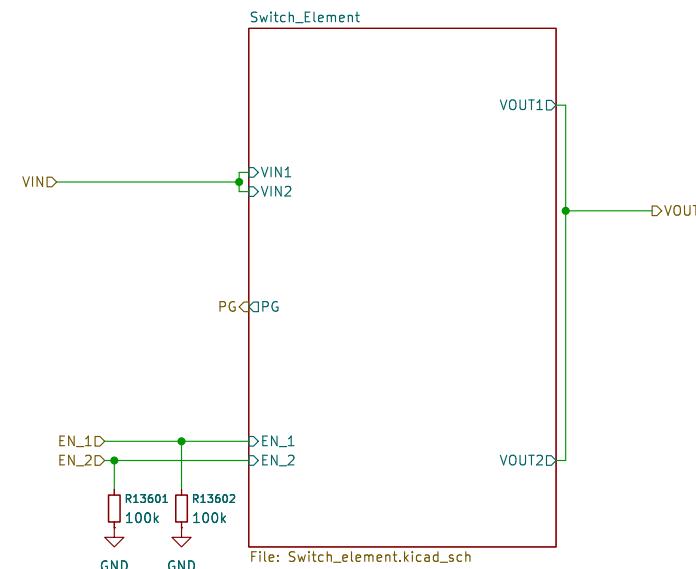
Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 134/80

A

Inputs	Outputs
Input voltage	Output voltage
Input from CPU	

Generic Switch
soft current limit – software
hard current limit – Resistor
kalibrace ADC mereni proudu
hot/cold redundancy
hot – 1 enable automatic
cold – 2 enables manual



Sheet: /OUTPUT_CHANNELS_1/Switch_CH_1/
File: Switch_C.kicad_sch

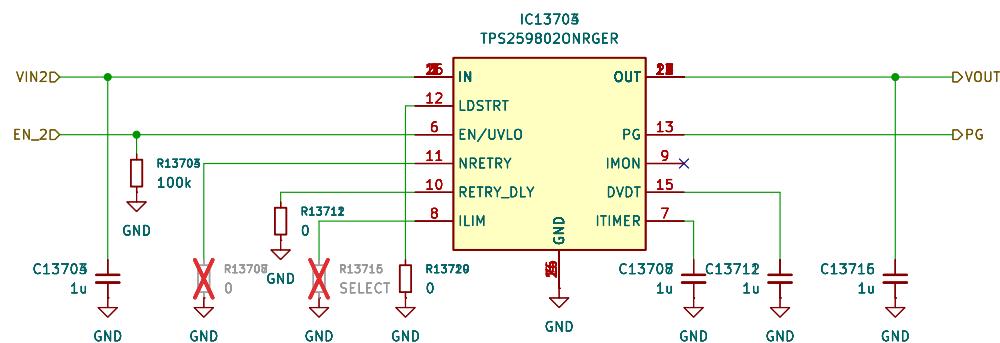
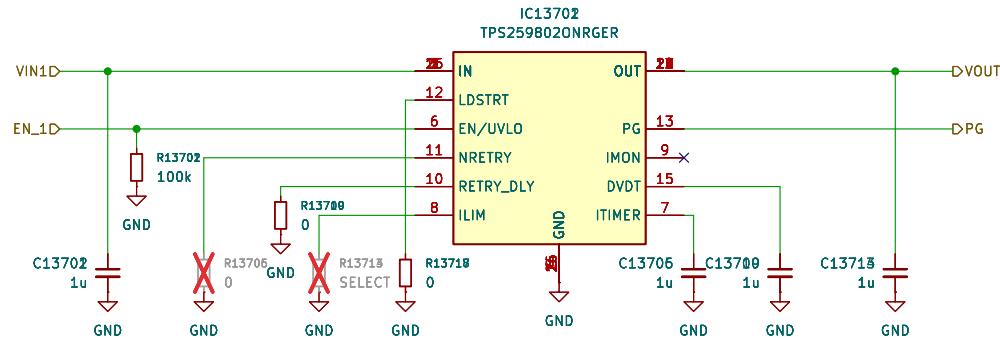
Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 135/80

A

Candidates
6A TPS281C30ERGWR
TPS25910RSAR
TPS1H200A-Q1 – too much Ron
TPS259802
10A TPS1685
TPS25983
LTC4226
TPS25983

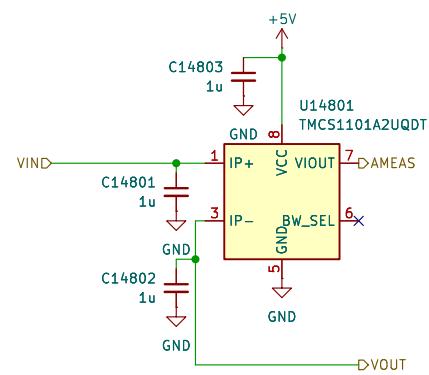


Sheet: /OUTPUT_CHANNELS_1/Switch_CH_1/Switch_Element/
File: Switch_element.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 136/80



Sheet: /OUTPUT_CHANNELS_1/AMEAS_7/
File: Current_Measure.kicad_sch

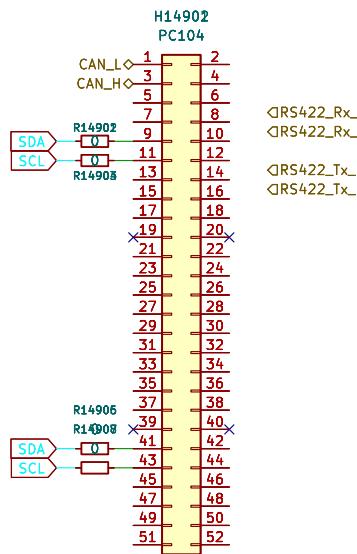
Title:

Size: A4 Date:
KiCad E.D.A. 9.0.4

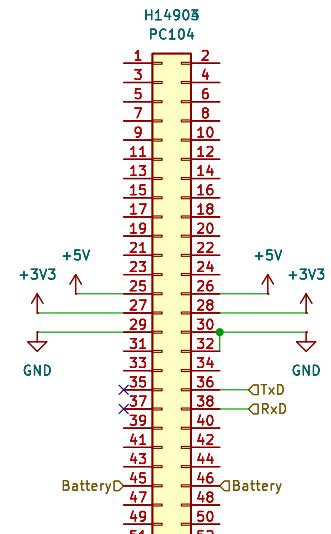
Rev:
Id: 137/80

1 2 3 4 5 6

A



B



C

D

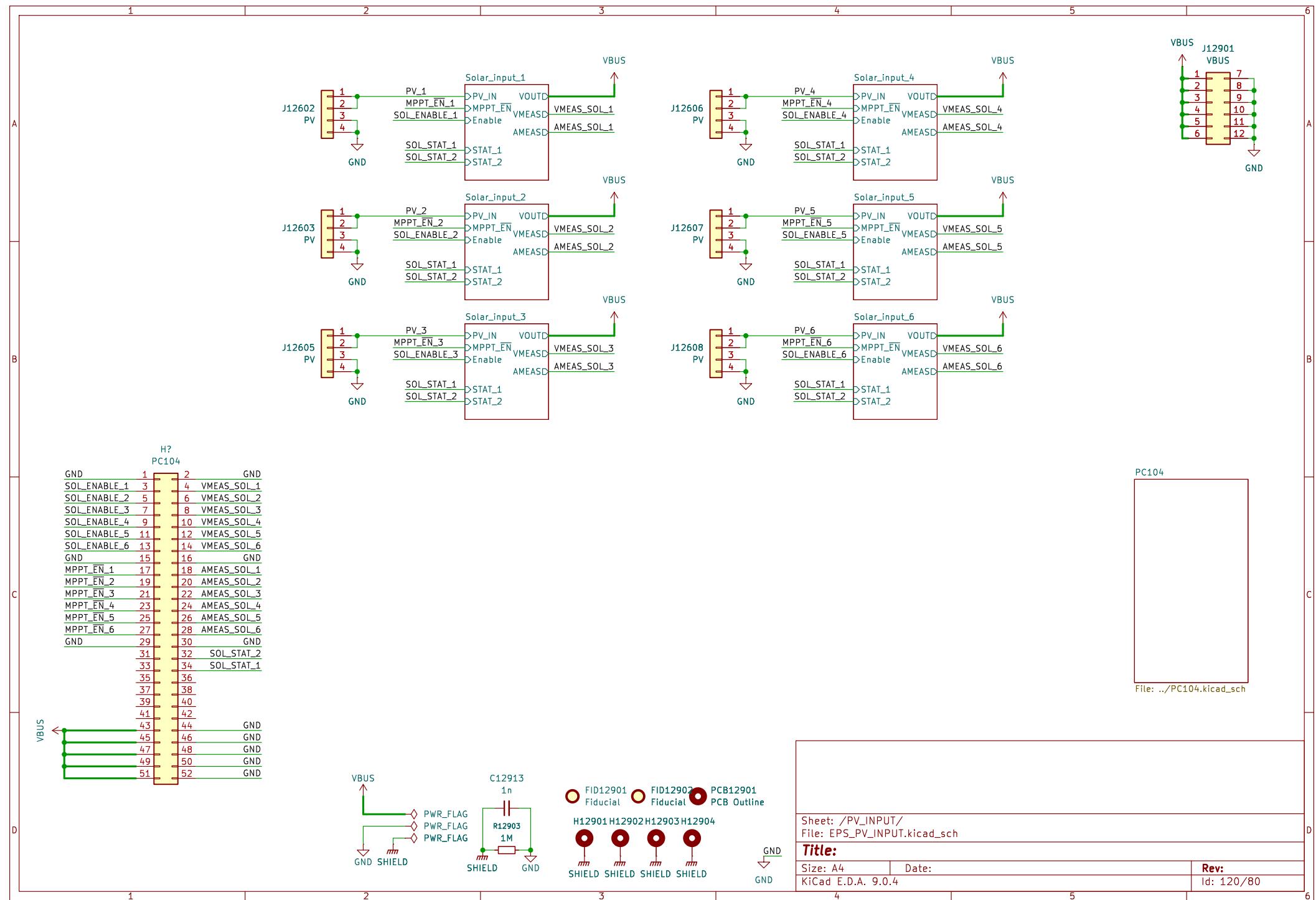
Sheet: /OUTPUT_CHANNELS_1/PC104/
File: PC104.kicad_sch

Title:

Size: A4 Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 138/80

1 2 3 4 5 6



1

2

3

4

5

6

A

B

C

D

A

B

C

D

Sheet: /PV_INPUT/Solar_input_1/
File: Solar_Cell_Input.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 71/80

1

2

3

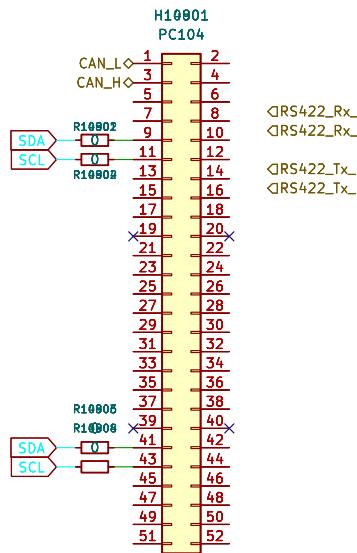
4

5

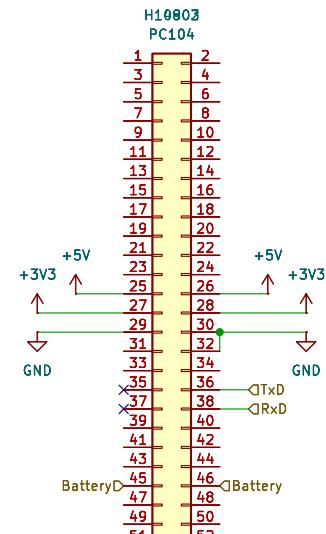
6

1 2 3 4 5 6

A



B



C

D

Sheet: /PV_INPUT/PC104/
File: PC104.kicad_sch

Title:

Size: A4 Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 72/80

1 2 3 4 5 6

1

2

3

4

5

6

A

B

C

D

A

B

C

D

Sheet: /PV_INPUT/Solar_input_2/
File: Solar_Cell_Input.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 76/80

1

2

3

4

5

6

1

2

3

4

5

6

A

B

C

D

A

B

C

D

Sheet: /PV_INPUT/Solar_input_3/
File: Solar_Cell_Input.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 84/80

1

2

3

4

5

6

1

2

3

4

5

6

A

B

C

D

A

B

C

D

Sheet: /PV_INPUT/Solar_input_4/
File: Solar_Cell_Input.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 90/80

1

2

3

4

5

6

1

2

3

4

5

6

A

B

C

D

A

B

C

D

Sheet: /PV_INPUT/Solar_input_5/
File: Solar_Cell_Input.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 114/80

1

2

3

4

5

6

1 2 3 4 5 6

A

B

C

D

A

B

C

D

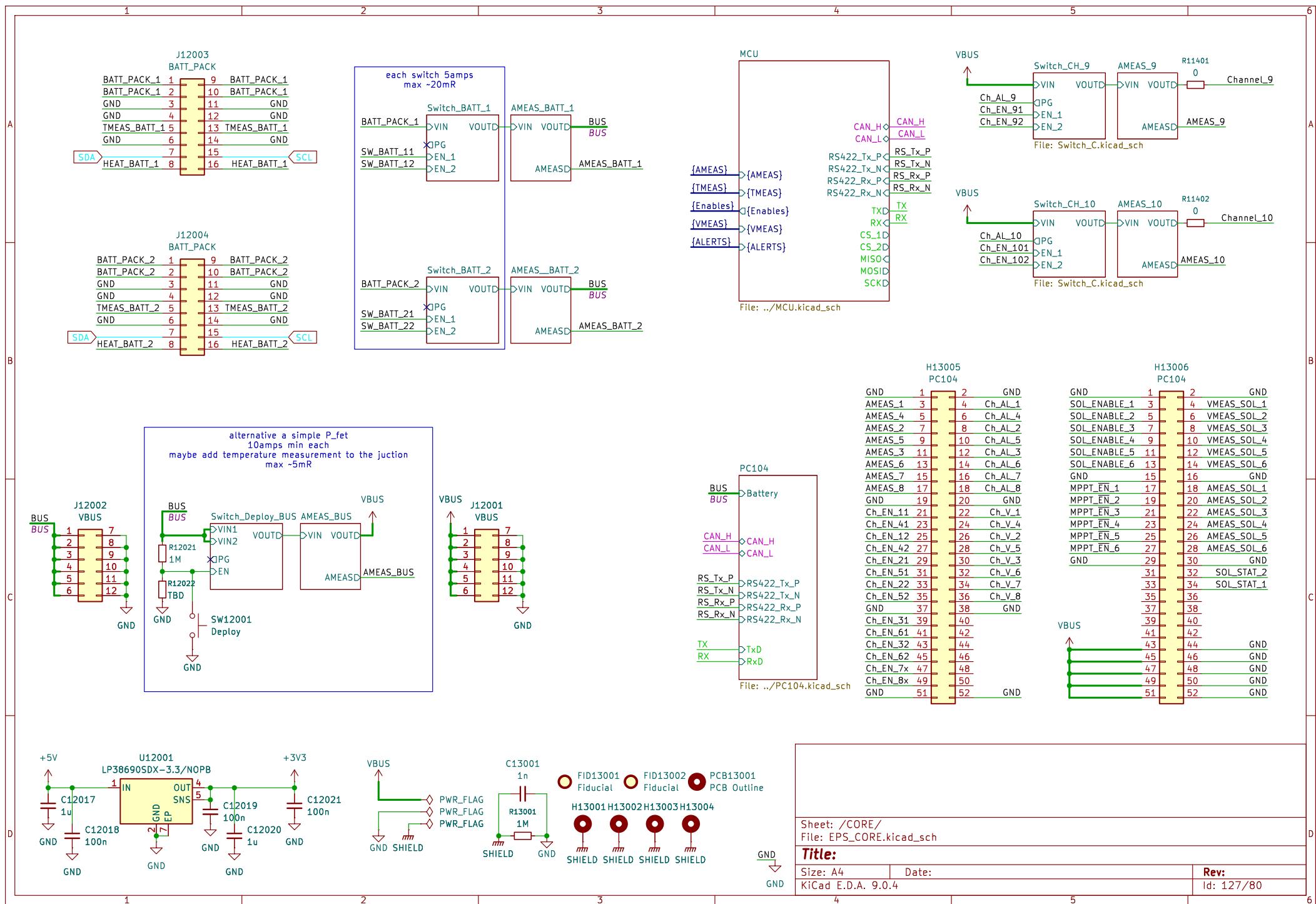
Sheet: /PV_INPUT/Solar_input_6/
File: Solar_Cell_Input.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

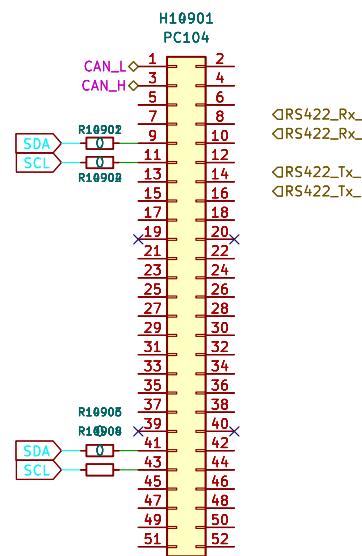
Rev:
Id: 119/80

1 2 3 4 5 6

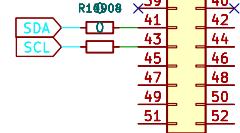


1 2 3 4 5 6

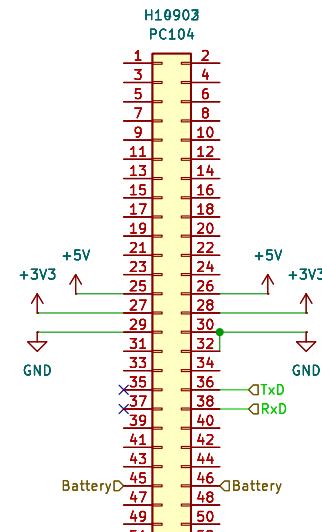
A



B



C



D

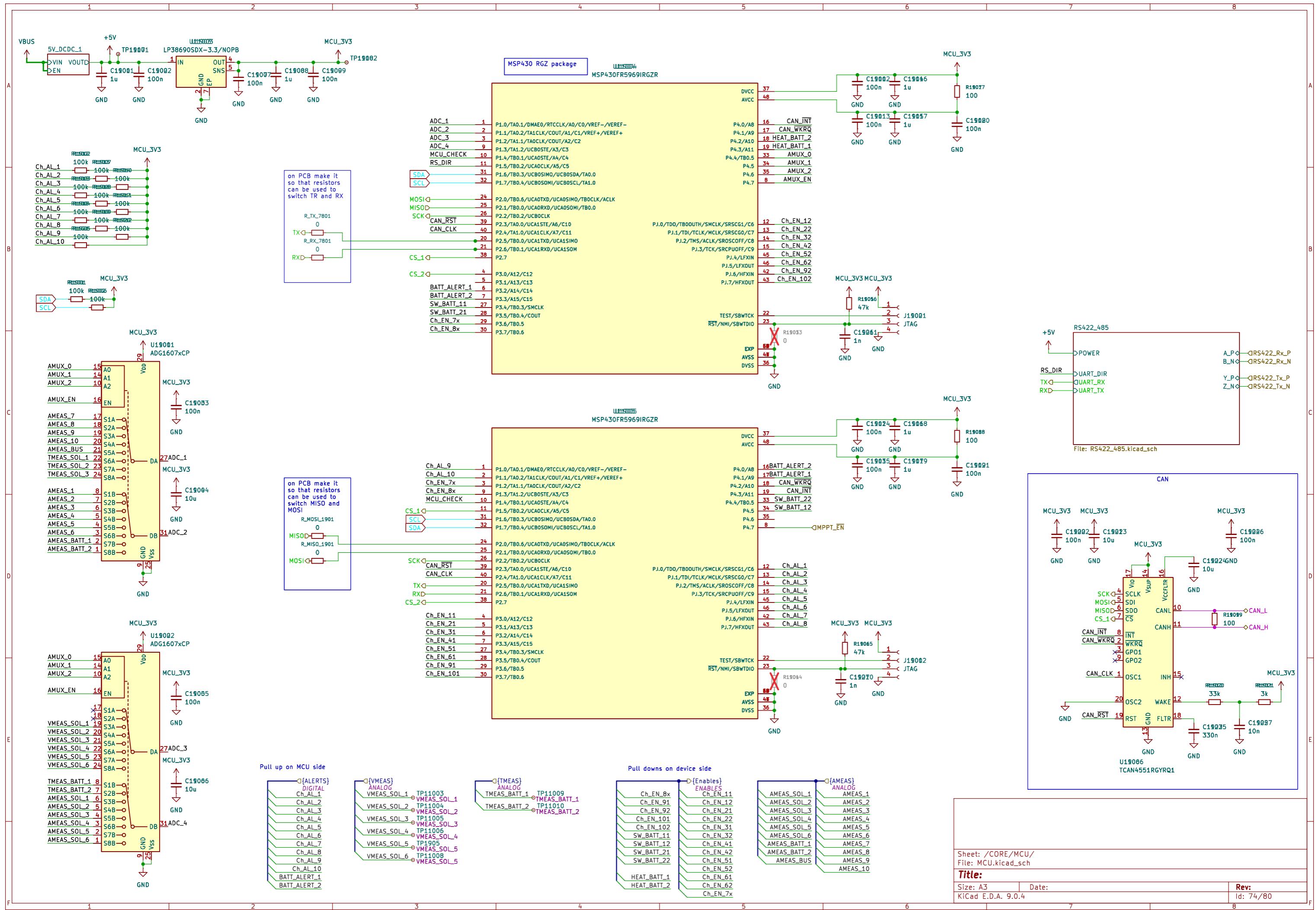
Sheet: /CORE/PC104/
File: PC104.kicad_sch

Title:

Size: A4 Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 73/80

1 2 3 4 5 6



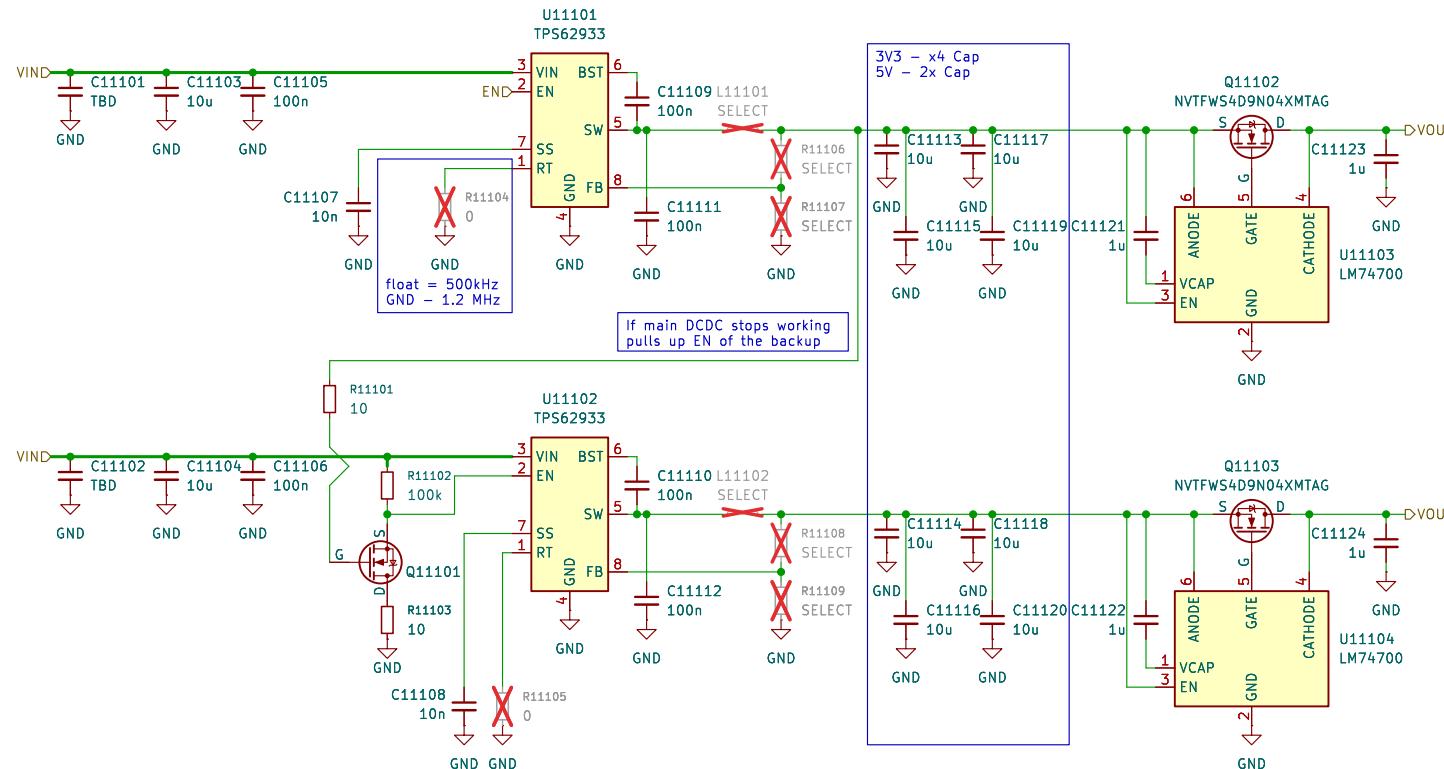
Inputs	Outputs
BUS Voltage	5V

2A

$$I_{CIN_RMS} = I_{OUT} \times \sqrt{\frac{V_{OUT}}{V_{IN_MIN}}} \times \frac{V_{IN_MIN} - V_{OUT}}{V_{IN_MIN}}$$

Use Rxx03 and Rxx00 to select output voltage

Output voltage
5V
10000*(5V-0.8)/0.8 => Rxx03,Rxx00 =
52500



Sheet: /CORE/MCU/5V_DCDC_1/
File: DCDC_ADJUSTABLE.kicad_sch

Title:

Size: A4 Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 75/80

A

A

B

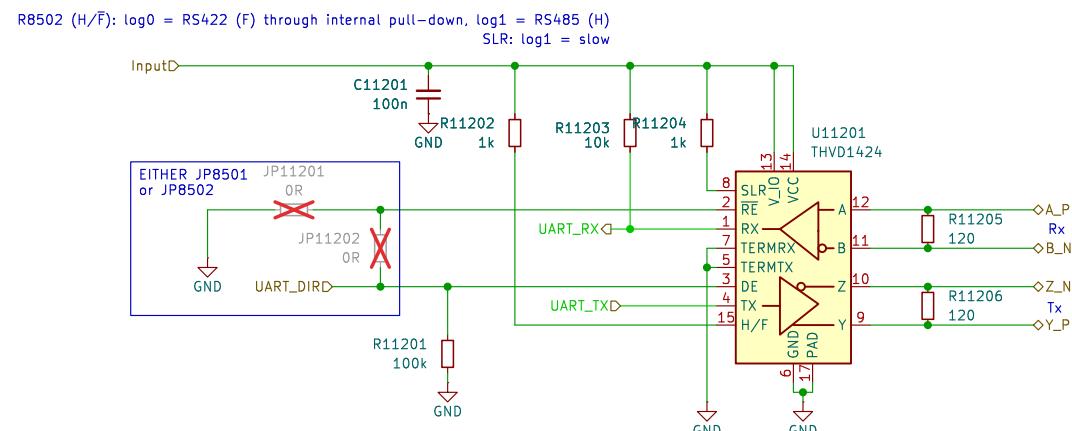
B

C

C

D

D



Sheet: /CORE/MCU/RS422_485/
File: RS422_485.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 78/80

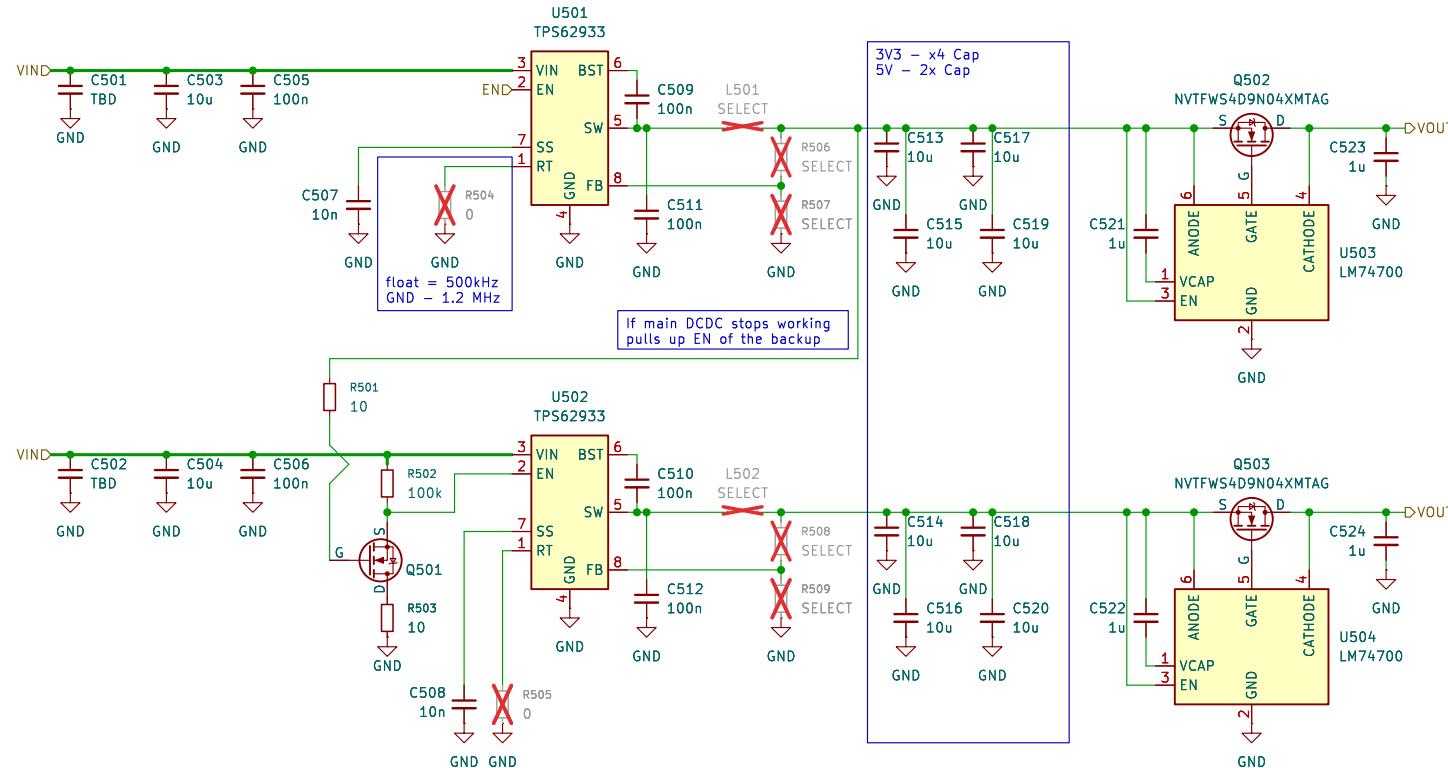
Inputs	Outputs
BUS Voltage	5V

2A

$$I_{CIN_RMS} = I_{OUT} \times \sqrt{\frac{V_{IN_MIN} - V_{OUT}}{V_{IN_MIN}}} \times \frac{V_{IN_MIN} - V_{OUT}}{V_{IN_MIN}}$$

Use Rxx03 and Rxx00 to select output voltage

Output voltage
5V
10000*(5V-0.8)/0.8 => Rxx03,Rxx00 =
52500



Sheet: /CORE/MCU/5V_DCDC_1/
File: DCDC_ADJUSTABLE.kicad_sch

Title:

Size: A4 Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 75/80

A

A

B

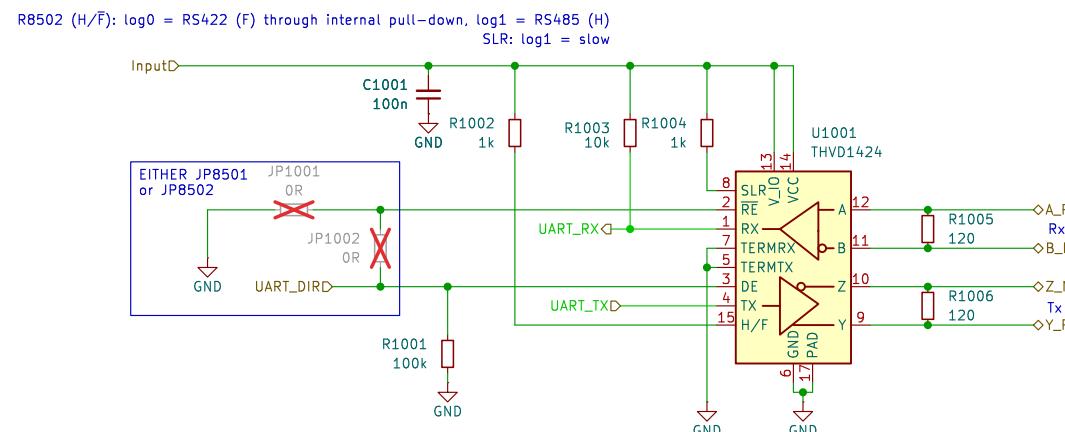
B

C

C

D

D



Sheet: /CORE/MCU/RS422_485/
File: RS422_485.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 76/80

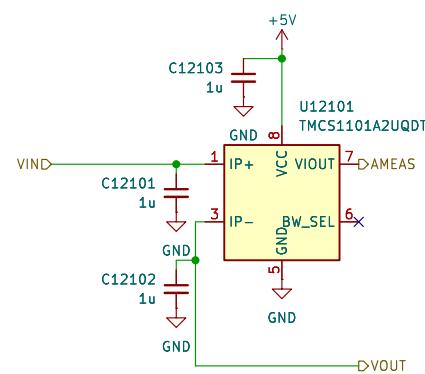
1 2 3 4 5 6

A

B

C

D



Sheet: /CORE/AMEAS_9/
File: Current_Measure.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 74/80

1 2 3 4 5 6

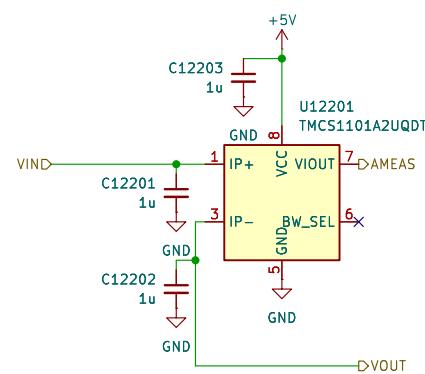
1 2 3 4 5 6

A

B

C

D



Sheet: /CORE/AMEAS_10/
File: Current_Measure.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

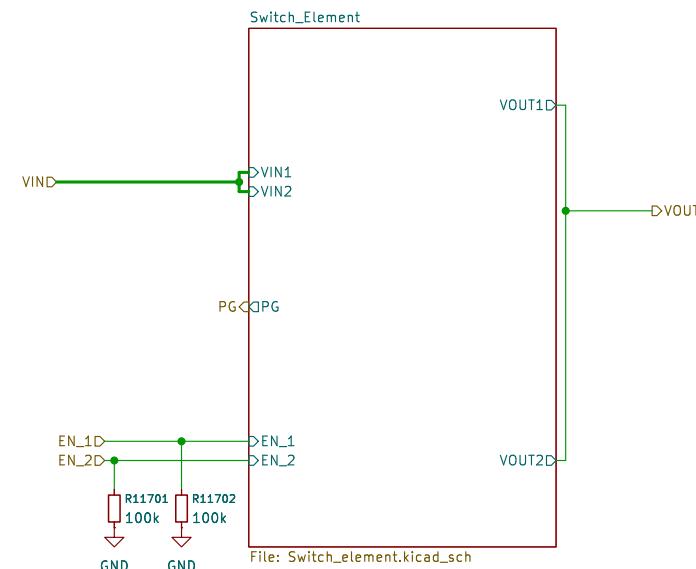
Rev:
Id: 75/80

1 2 3 4 5 6

A

Inputs	Outputs
Input voltage	Output voltage
Input from CPU	

Generic Switch
soft current limit – software
hard current limit – Resistor
kalibrace ADC mereni proudu
hot/cold redundancy
hot – 1 enable automatic
cold – 2 enables manual



B

C

D

Sheet: /CORE/Switch_CH_9/
File: Switch_C.kicad_sch

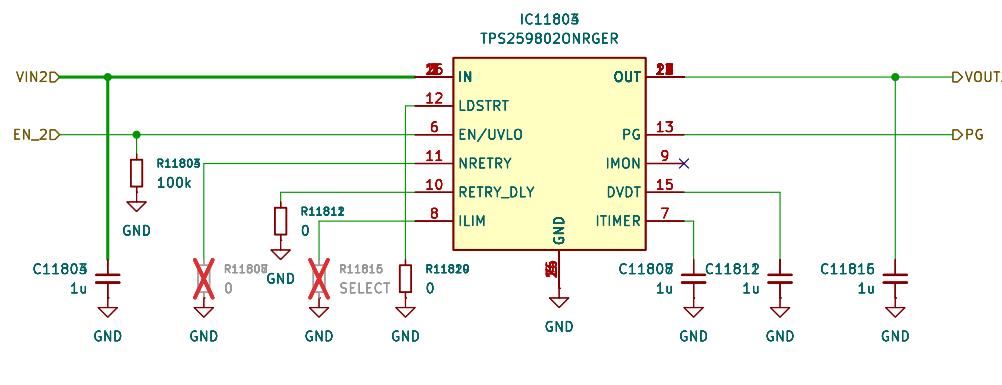
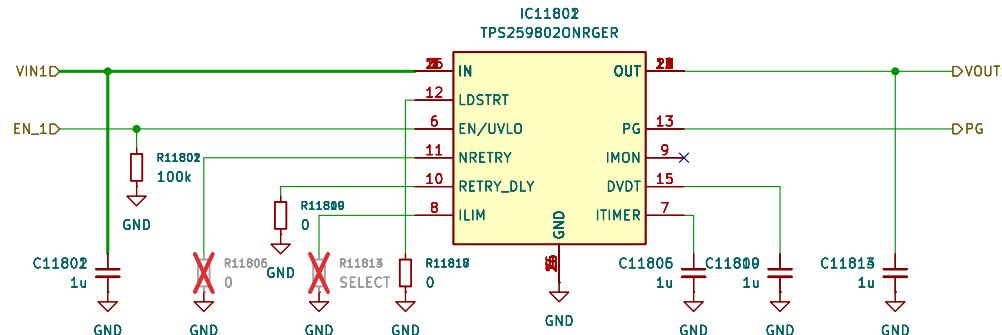
Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 78/80

A

Candidates
6A TPS281C30ERGWR
TPS25910RSAR
TPS1H200A-Q1 – too much Ron
TPS259802
10A TPS1685
TPS25983
LTC4226
TPS25983



Sheet: /CORE/Switch_CH_9/Switch_Element/
File: Switch_element.kicad_sch

Title:

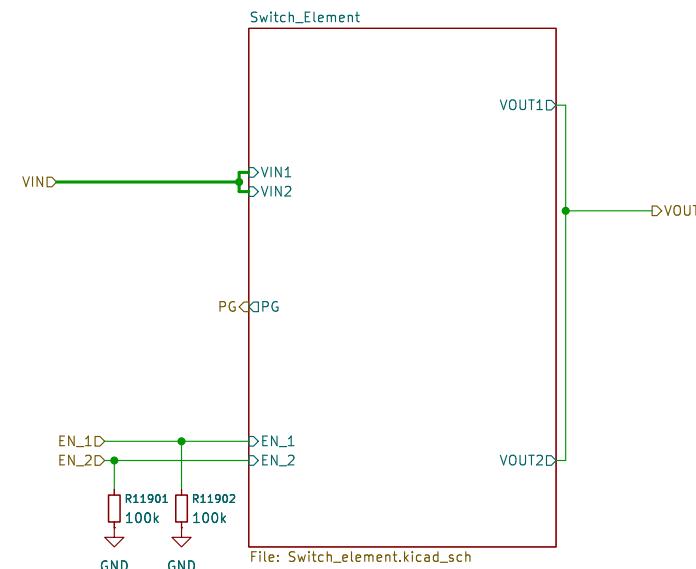
Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 79/80

A

Inputs	Outputs
Input voltage	Output voltage
Input from CPU	

Generic Switch
soft current limit – software
hard current limit – Resistor
kalibrace ADC mereni proudu
hot/cold redundancy
hot – 1 enable automatic
cold – 2 enables manual



B

C

D

Sheet: /CORE/Switch_CH_10/
File: Switch_C.kicad_sch

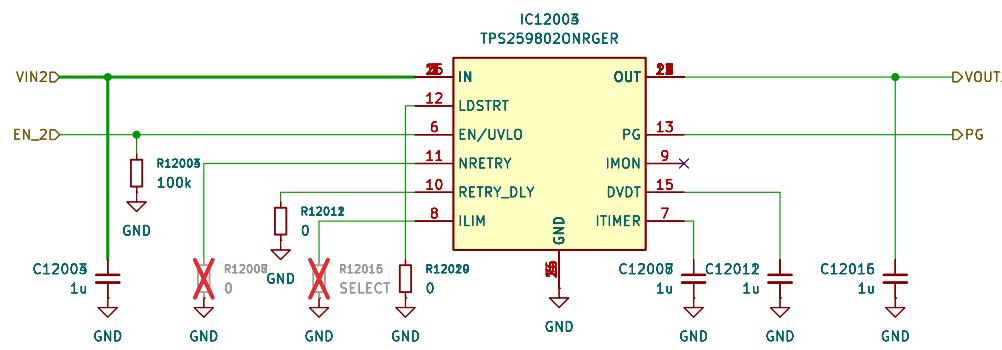
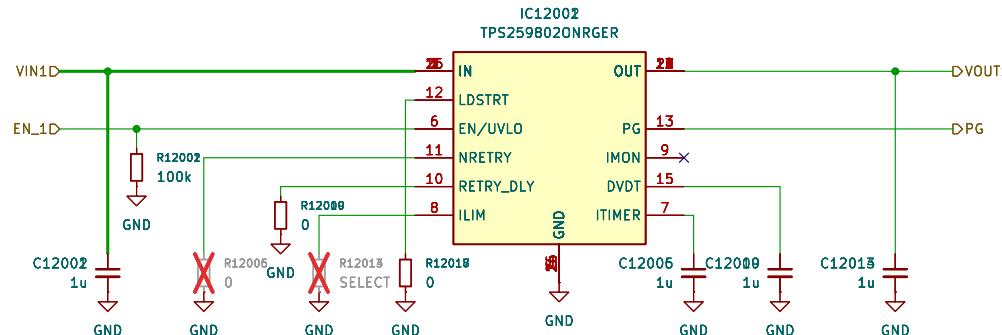
Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 80/80

A

Candidates
6A TPS281C30ERGWR
TPS25910RSAR
TPS1H200A-Q1 – too much Ron
TPS259802
10A TPS1685
TPS25983
LTC4226
TPS25983



Sheet: /CORE/Switch_CH_10/Switch_Element/
File: Switch_element.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 81/80

A

B

C

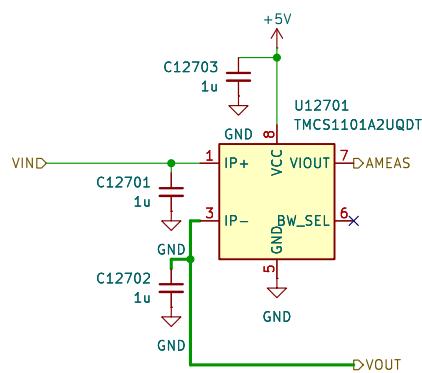
D

A

B

C

D

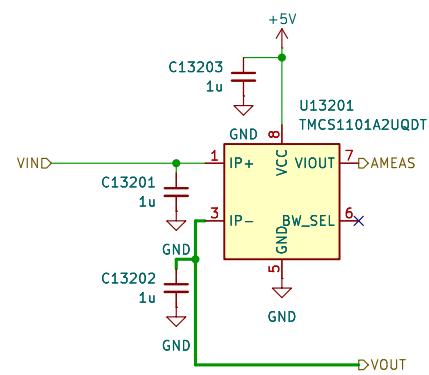


Sheet: /CORE/AMEAS_BATT_1/
File: Current_Measure.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 85/80



Sheet: /CORE/AMEAS_BUS/
File: Current_Measure.kicad_sch

Title:

Size: A4 Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 86/80

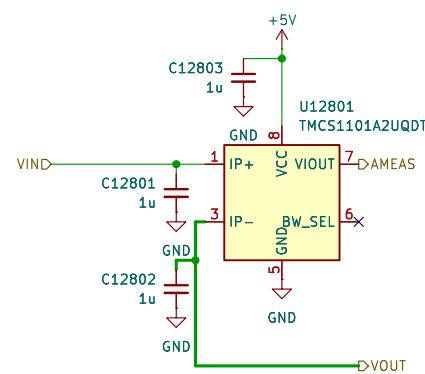
1 2 3 4 5 6

A

B

C

D



Sheet: /CORE/AMEAS_BATT_2/
File: Current_Measure.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

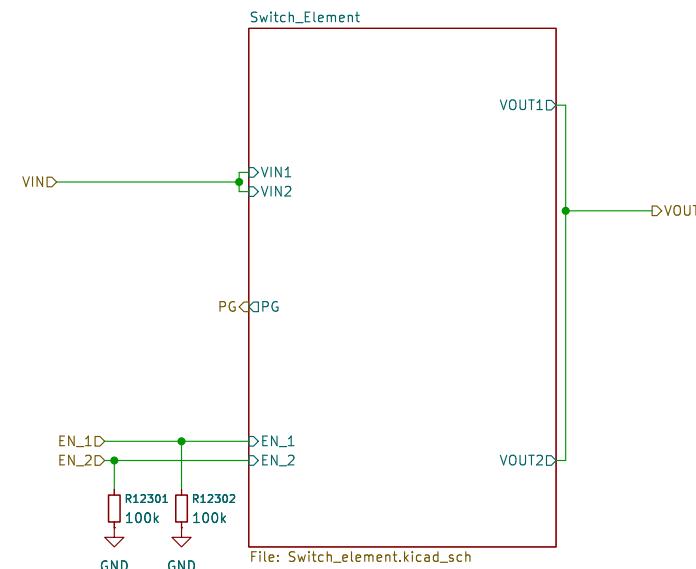
Rev:
Id: 87/80

1 2 3 4 5 6

A

Inputs	Outputs
Input voltage	Output voltage
Input from CPU	

Generic Switch
soft current limit – software
hard current limit – Resistor
kalibrace ADC mereni proudu
hot/cold redundancy
hot – 1 enable automatic
cold – 2 enables manual



B

C

D

Sheet: /CORE/Switch_BATT_1/
File: Switch_C.kicad_sch

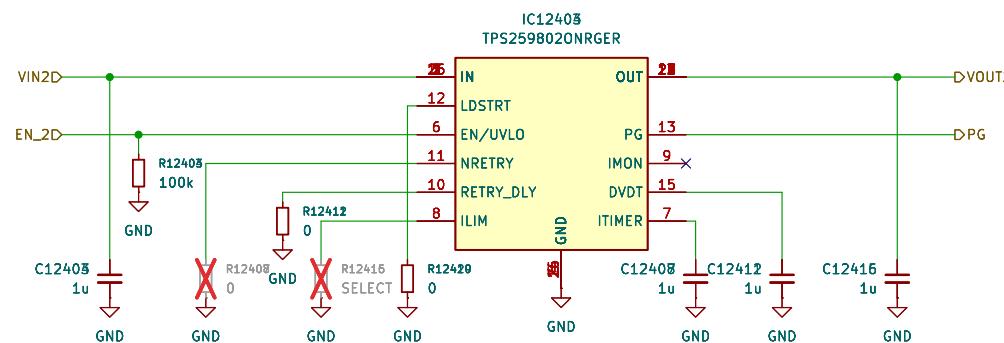
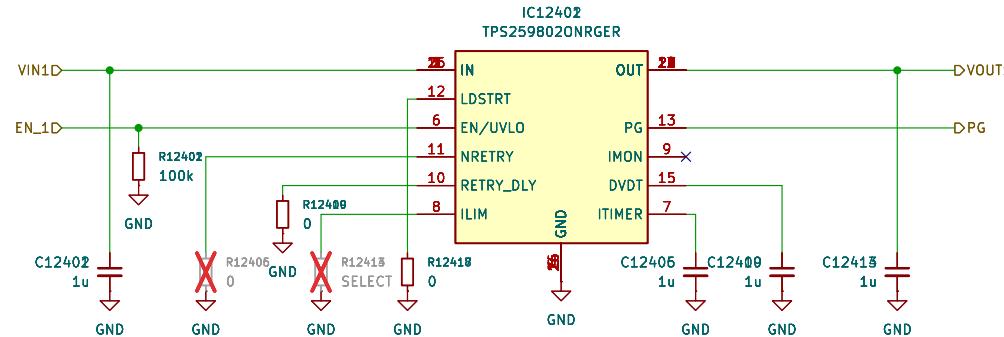
Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 88/80

A

Candidates
6A TPS281C30ERGWR
TPS25910RSAR
TPS1H200A-Q1 – too much Ron
TPS259802
10A TPS1685
TPS25983
LTC4226
TPS25983



Sheet: /CORE/Switch_BATT_1/Switch_Element/
File: Switch_element.kicad_sch

Title:

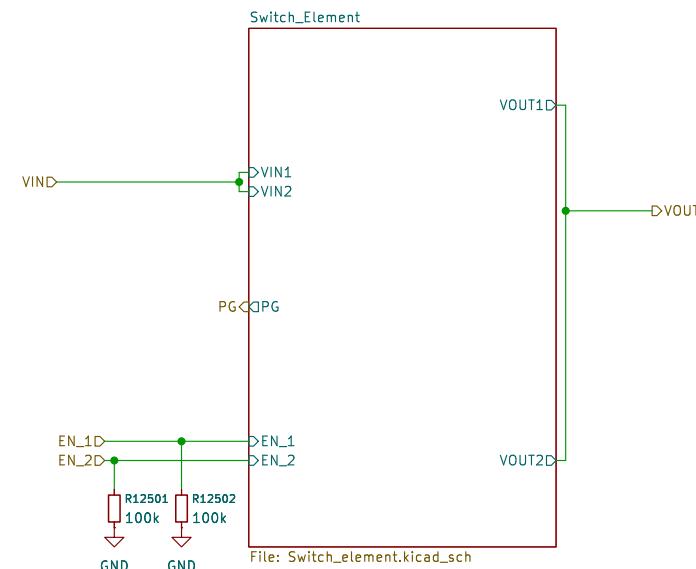
Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 91/80

A

Inputs	Outputs
Input voltage	Output voltage
Input from CPU	

Generic Switch
soft current limit – software
hard current limit – Resistor
kalibrace ADC mereni proudu
hot/cold redundancy
hot – 1 enable automatic
cold – 2 enables manual



Sheet: /CORE/Switch_BATT_2/
File: Switch_C.kicad_sch

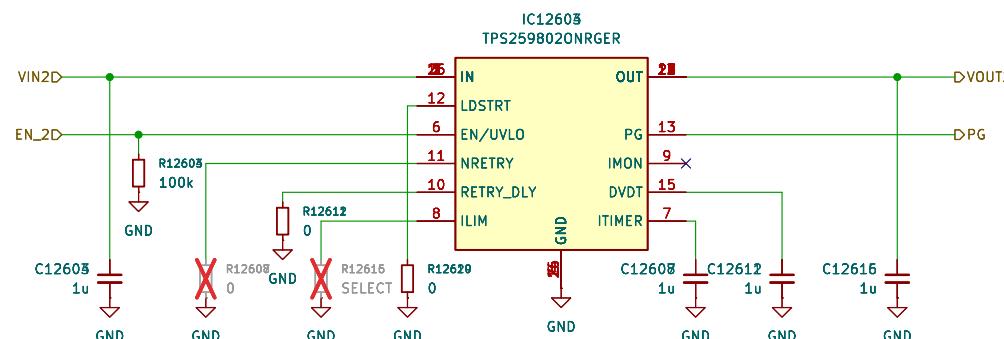
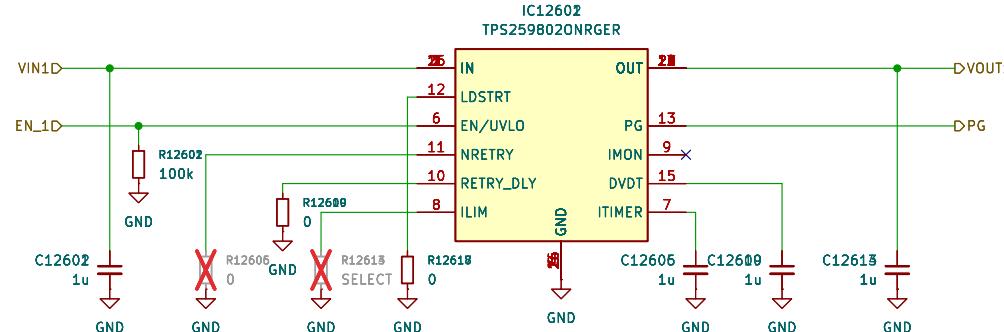
Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 111/80

A

Candidates
6A TPS281C30ERGWR
TPS25910RSAR
TPS1H200A-Q1 – too much Ron
TPS259802
10A TPS1685
TPS25983
LTC4226
TPS25983



Sheet: /CORE/Switch_BATT_2/Switch_Element/
File: Switch_element.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

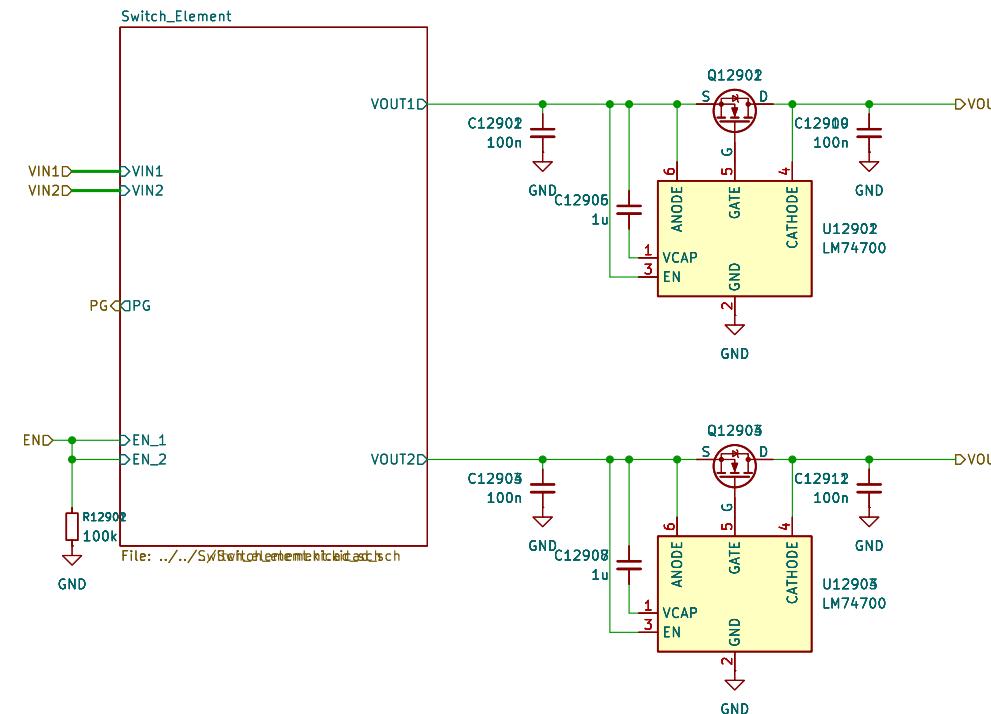
Rev:
Id: 112/80

Inputs	Outputs
Input voltage	Output voltage
Input from CPU	

dedikovaný ideal diode IC

A

Generic Switch
soft current limit – software
hard current limit – Resistor
kalibrace ADC merení proudu
hot/cold redundancy
hot – 1 enable automatic
cold – 2 enables manual



Sheet: /CORE/Switch_Deploy_BUS/
File: Switch_H.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 113/80

B

A

C

B

D

C

1

2

3

4

5

6

1

2

3

4

5

6

A

B

C

D

A

B

C

D

Sheet: /CORE/Switch_Deploy_BUS/Switch_Element/
File: Switch_element.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 115/80

1

2

3

4

5

6

1 2 3 4 5 6

A

B

C

D

A

B

C

D

1 2 3 4 5 6

Sheet: /CORE/Switch_Deploy_BUS/Switch_Element/
File: Switch_element.kicad_sch

Title:

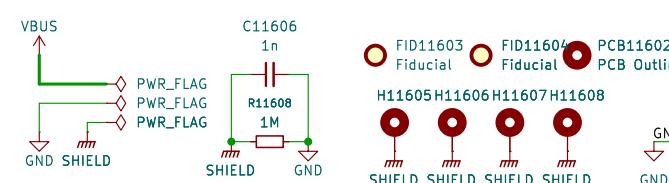
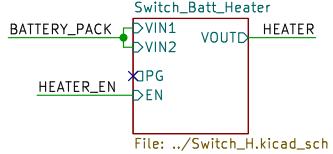
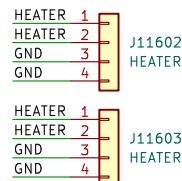
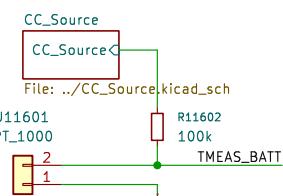
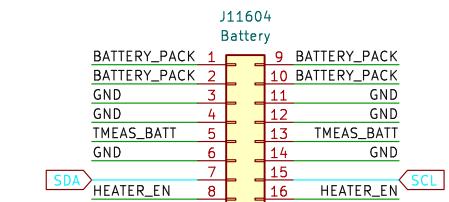
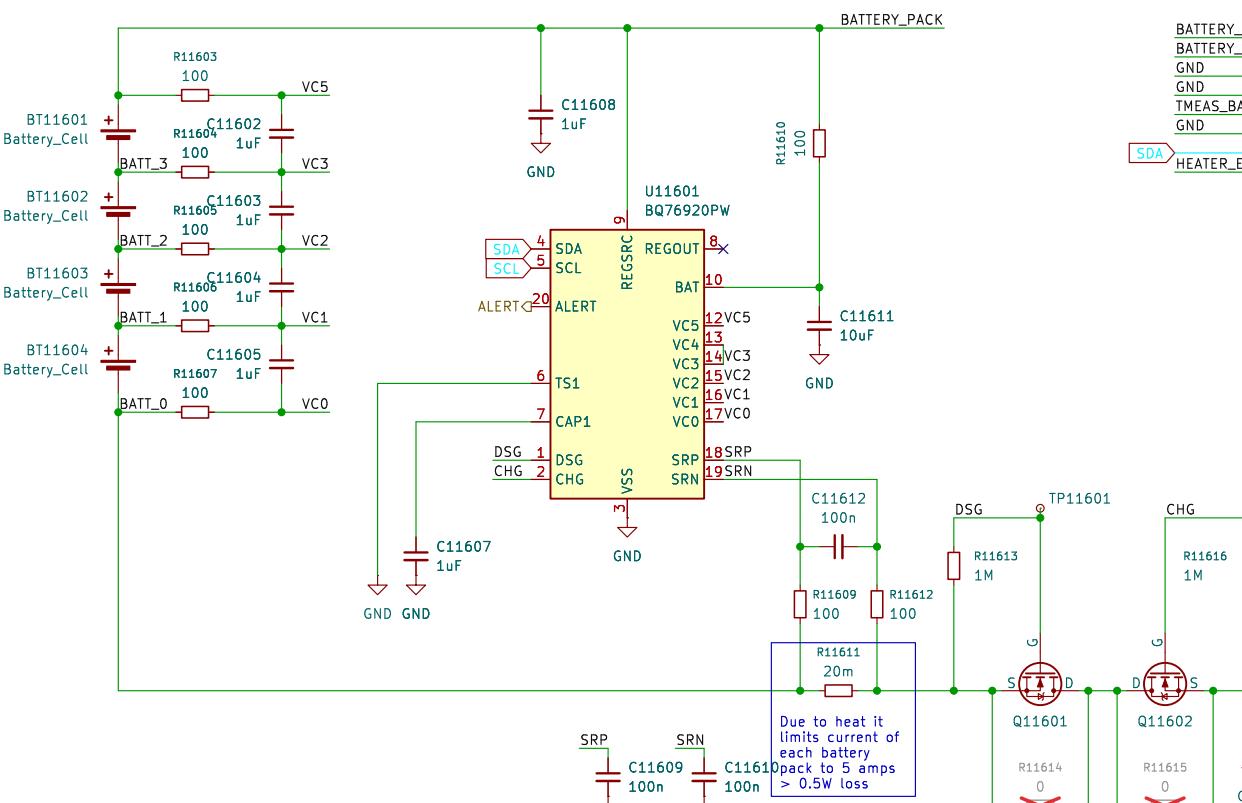
Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 116/80

1 2 3 4 5 6

Inputs	Outputs
Input voltage	Output voltage
Heater Enable	Measured voltage
4S battery	Measured current
	Temperature of the Cell
	Temperature of the charger (not sure)

Input for Battery cell with balancing circuit
Temperature measurement of the battery
Heater for maintaining battery temperature



Sheet: /BATTERY_2/
File: EPS_BATTERY_PACK.kicad_sch

Title:

Size: A4 Date:

KiCad E.D.A. 9.0.4

Rev:
Id: 139/80

A

A

B

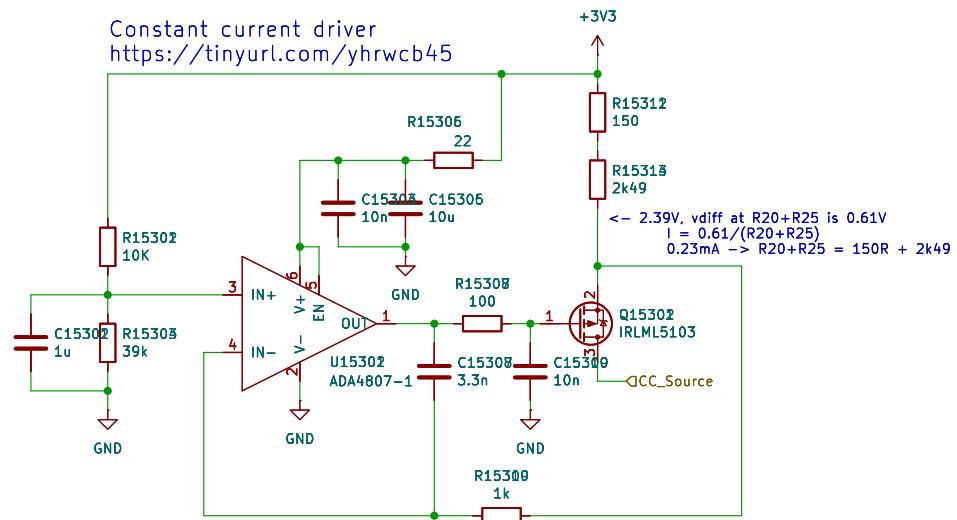
B

C

C

D

D



Sheet: /BATTERY_2/CC_Source/
File: CC_Source.kicad_sch

Title:

Size: A4 Date:
KiCad E.D.A. 9.0.4

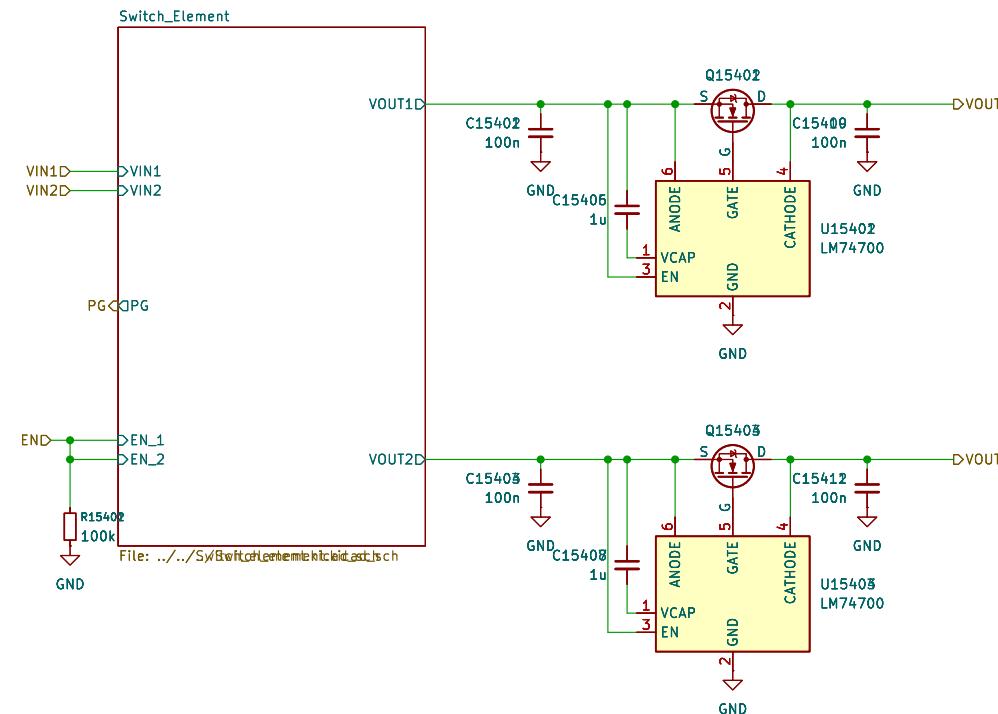
Rev:
Id: 140/80

Inputs	Outputs
Input voltage	Output voltage
Input from CPU	

dedikovaný ideal diode IC

A

Generic Switch
soft current limit – software
hard current limit – Resistor
kalibrace ADC merení proudu
hot/cold redundancy
hot – 1 enable automatic
cold – 2 enables manual



B

A

Sheet: /BATTERY_2/Switch_Batt_Heater/
File: Switch_H.kicad_sch
Title:
Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 141/80

C

B

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D

Sheet: /BATTERY_2/Switch_Batt_Heater/Switch_Element/
File: Switch_element.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 142/80

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A

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Sheet: /BATTERY_2/Switch_Batt_Heater/Switch_Element/
File: Switch_element.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.4

Rev:
Id: 143/80

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